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STATUS OF ATLANTIC SALMON STOCKS, GULF REGION NEWFOUNDLAND AND LABRADOR, 1990

by

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ABSTRACT

Commercial salmon fishery quotas were introduced in SFA 13 and 14 in 1990. In all areas commercial harvests of small and large salmon were reduced from 1989 levels and five and ten year means. Large salmon catches showed the largest reductions. Commercial catch reductions relative to long term trends were most apparent in SFA 14 small and large catches. Recreational fishery 1990 harvests were higher than in 1989, similar to five, ten and fifteen year means, and tended to reflect long term trends as indicated by 1985-1990 mean harvest.

RESUME

En 1990, des contingents de pêche commerciale pour le saumon atlantique furent imposés pour les zones de pêche 13 et 14. Les débarquements commerciaux de petit et de grand saumon en 1990 étaient inférieurs à ceux de l'année précédente ainsi qu'aux niveaux moyens des cinq et dix années antérieures. La plus grande réduction s'est vue dans les prises de grand saumon. Les réductions dans les prises commerciales enrégistrées en 1990, relativement aux tendances à long terme, étaient notamment évidentes dans les prises de petit et de grand saumon de la zone de pêche 14. Les pêches récréatives ont pris plus de saumon qu'en 1989 mais une quantité semblable à la moyenne des 5, 10 et 15 années précédentes.

INTRODUCTION

This paper presents the status of Atlantic salmon stocks in Gulf Region, Newfoundland and Labrador for 1990. This area consists of three Salmon Fishing Areas (SFA's 12, 13, 14) which are comprised of seven Statistical Areas (J2, K, L, M, N, O(50), A(01)) (Table 1, Fig. 1). There are 51 scheduled salmon rivers in the area (Table 2, Fig. 2) and river escapements are counted in two, by fishway in Torrent River and counting fence in Western Arm Brook.

Commercial and recreational harvest statistics, fishway and fence counts are compared to historical data to assess the current status of Western Newfoundland and Southern Labrador salmon stocks.

Commercial fishery access to Atlantic salmon stocks in 1990 was regulated by seasons, quotas, license and gear restrictions. Season opening dates were the same as those in effect for 1989 and quotas were introduced for SFA 13 and 14. SFA 12 remained closed. SFA 13 opened 0600 hr. 5 June, as in 1984-1989, and closed when the 35 t quota was caught, midnight 3 July. Closure date in SFA 13 from 1978-1989 was 10 July. SFA 14 opened with a 50 t quota at 0600 hr. 5 June, similar to 1984-1989, and closed midnight 14 July. Closure date in SFA 14 was 31 December previous to 1986 and 15 October for 1986-1989. The Southern Labrador fishery was reopened with a supplementary 10 t quota on 20 July until midnight 30 July, with individual fishermen being required to stop fishing when 75 tags were used (D. Rowe, DFO, Resource Allocation, personal communication).

Commercial salmon tags were issued to a total of 356 licensed salmon fishermen in the region, including 107 in SFA 13 and 249 in SFA 14 of which 76 were in Southern Labrador. No new commercial salmon fishery licenses were issued in 1990. Full-time fishermen were restricted to a maximum fixed gillnet length of 200 fathoms. Mesh size restrictions in SFA 13 were: Cape Ray to Cape Anguille, 127 mm, Cape Anguille to Cape St. George, 114 mm and Cape St. George to Cape St. Gregory, 127 mm. A mesh size of 127 mm was permitted throughout SFA 14. Gillnets are usually about 3 fathoms (60 meshes) in depth.

Quotas were monitored from fish plant sales records obtained by Inspection Branch field personnel and from local sales obtained from commercial fisherman reports or estimated by Conservation and Protection field personnel. All quotas were for round weight. Commercial salmon tags were issued in allotments and fishermen

were required to submit weekly reports of tags used to receive additional allotments. These reports were not required for the supplementary quota in Southern Labrador.

Recreational fishery regulations were similar to 1989 and to the previous five years. Subject to in-season closures due to low water levels, quota restrictions and local season variation orders (Table 3), the following seasons applied to this fishery:

	Season
Fox Point to Cape Ray	9 June to 3 September
Cape Ray to Salmon Point, Bonne Bay	6 June to 3 September
Salmon Point to Cape Bauld	16 June to 3 September
Southern Labrador	6 June to 9 September

The major recreational license restriction was that anglers were required to release salmon >= 63 cm in insular Newfoundland but these salmon could be retained in Southern Labrador. The following bag limits, introduced in 1986, applied to all areas:

Season limit - 15 fish

Possession limit - 4 fish (two day limit)

Daily bag limit - 2 fish

Hook and release - 4 fish

METHODS

Harvest statistics have all been updated from previous reports and summary tables may differ slightly from those in Claytor and Mullins (1990). This difference is most relevant to 1987-1988 commercial harvests because of a delay in receiving purchase slips from some buyers.

Harvests in 1990 were compared to previous years in two ways. First to previous 5, 10 and 15 year means and second to mean harvests calculated for years in which management plans were similar, based on season opening and closing dates. Recreational fishery management was similar to 1985-1989 plan years, hence, recreational harvests were averaged for 1985-1990. Commercial

harvests were compared directly with previous plan years since the 1990 commercial fishery management plan was not similar to previous years (Table 4). Ninety-five percent confidence limits were calculated for 5, 10 and 15 year means. Commercial harvests were also summarized for Coastal Areas by standardized week. Communities comprising Coastal Areas are given in Table 5 and standardized weeks are shown in Table 6.

Commercial harvests, as in previous years, were compiled from fish plant purchase slips forwarded from commercial buyers and monthly estimates of local sales, by community (supplementary 'B' purchase slips), completed by Conservation and Protection Branch field personnel. Landings recorded by most buyers had been sized (small <= 2.7 kg; large > 2.7 kg) and weights and numbers of salmon indicated on most purchase slips. However, some buyers classify salmon <= 2.3 kg as small and > 2.3 kg as large. Landings from these plants would have a higher proportion of large salmon than those from plants using 2.7 kg as the weight differentiating small from large. The impact of these differing classification systems on overall harvest statistics is presently unknown, however, it is believed to be minimal since the mean weight of Gulf Region, Newfoundland and Labrador salmon is 1.5 kg (gutted head-on) for small and 3.8 kg (gutted head-on) for large which are well outside the range of overlap (2.3-2.7 kg). Based on buyer contact in 1986-1988, the proportion of buyers using each classification system appears to be consistent from year to year. Harvest estimates from supplementary 'B' purchase slips were usually sized (small <= 2.7 kg; large > 2.7 kg) but numbers were sometimes not provided. Sized weight estimates, as well as unsized weights reported on purchase slips or supplementary 'B' slips, were portioned into numbers and sizes based on an average weight for small and large salmon and percentage of small and large salmon determined by section over the entire season (Ash and O'Connell 1986, Claytor et al. 1991). Monthly supplementary 'B' harvests are portioned by week based on percentage daily catch from purchase slip sales.

In 1990, plant and local sales of salmon were primarily in the gutted, head-on condition. A conversion factor of 1.2 was applied to convert gutted, head-on to round weight.

Recreational harvests were compiled from weekly salmon angling reports completed by river guardians (Mullins and Claytor 1989).

Counts of salmon at Torrent River fishway and Western Arm Brook fence were obtained by Marine and Anadromous Fish Division and Conservation and Protection Branch personnel.

HARVESTS

Gulf Region

Percent local sales of commercial harvests estimated for 1990 by Conservation and Protection field personnel were similar to the 1987-1989 mean estimates and to 1990 percent local sales reported by commercial fishermen (Table 7,8).

The largest commercial harvest of small salmon in the region was in Coastal Area Flat Bay and the greatest large salmon harvest was from Southern Labrador (Table 9, 10). Gulf Region commercial fisheries, in 1990, harvested 86.7 t of the available 95 t quota. Based on purchase slip and supplementary 'B' reports, total commercial harvest, by weight, was 29 % lower than in 1989, 42 % lower than the previous 5 year mean and 49 % lower than the previous 10 year mean. Small salmon number was 24 % less than 1989, 40 % less than the previous 5 years and 32 % less than the previous 10 year mean. Large salmon numbers showed greater reductions at 41 % less than 1989, 49 % less than previous 5 and 64 % less than the previous 10 year mean (Table 11).

Commercial harvest reductions in insular Newfoundland were similar to the region as a whole. Total harvest weight in insular Newfoundland was 21 % less than in 1989, 39 % less than the previous 5 years and 48 % less than the previous 10 years. Small and large salmon numbers were also reduced from 1989 and long term means with large salmon number showing the greatest decrease (Table 12).

The largest recreational harvest of small (1SW) salmon in the region occurred in Humber River followed by River of Ponds, the reverse of 1989 (Table 23). Harvest of 1SW salmon for the entire region was 68 % higher than in 1989 and within 6 % of 5, 10 and 15 year means. Catch-per-unit-effort (CPUE) was also higher than 1989 and the previous 5 year mean. Percent 1SW was lower than 1989 and all long term means (Table 24), suggesting an increase in river escapement of large (MSW) salmon in 1990. Similar increases in harvest and CPUE and decrease in percent 1SW also occured in the insular Newfoundland portion of the Gulf Region recreational fishery (Table 25).

Salmon Fishing Area 12

The commercial salmon fishery in SFA 12 has been closed since 1984. However, when this fishery was open, it harvested the greatest number of large salmon in the Gulf Region (Table 13, Fig. 4).

The largest 1SW salmon recreational harvest in SFA 12 was from Burnt Island River (Table 23). Harvest of 1SW salmon was 52 % greater than in 1989, 12 % less than the previous 5 years, 21 % less than the previous 10 years and 4 % less than the previous 15 year mean (Table 26). 1SW salmon harvests during 1985-1990 management plans were similar to harvests in 1978-1984 and above 1974-1977 suggesting that river 1SW salmon returns to SFA 12 have been fairly stable since 1978. Hook and release of large salmon in 1985-1990 is similar to harvests in 1974-1977 and 1978-1984 plan years suggesting that returns of MSW salmon have also remained stable since 1974 (Fig. 4).

Salmon Fishing Area 13

The largest 1990 commercial harvest of small salmon in SFA 13 was from Coastal Area Flat Bay which caught 25 % of SFA 13 small salmon. The largest commercial harvest of large salmon was in St. George Central, the next coastal area south, which caught 26 % of SFA 13 large. CPUE of small salmon was highest in Bay of Islands S., whereas CPUE of large salmon was highest in Codroy. Fifty percent of small and large salmon harvests in SFA 13 were caught by week 25 (Table 9, 10).

Commercial salmon harvest weight in SFA 13 was 7 % less than 1989, 29 % less than the previous 5 year mean and 16 % less than the previous 10 year mean. Small and large salmon numbers showed decreases similar to those for harvest weight, relative to long term means, however, small salmon number was 1 % above 1989, and large salmon was 23 % less than 1989 (Table 14). Small and large salmon SFA 13 harvests in 1990 (weeks 23-27) were reduced relative to harvests during 1984-1989 (weeks 23-28) management plans. Small salmon harvest in 1990 was similar to 1974-1977 and 1978-1983 plan years and large salmon harvest was similar to 1978-1983 but below the 1974-1977 and 1984-1989 management plan harvests (Fig. 5).

Area K commercial small salmon numbers were similar to 1989, 20 % lower than the 5 year mean but similar to the 10 year mean. Large salmon numbers were 20 % less than 1989, 27 % less than the previous 5 year mean and 10 % less than the previous 10 year mean (Table 17). Area K harvested 68 % of SFA 13 small salmon and 77 % of SFA 13 large salmon (Table 14, 17).

Area L commercial small salmon numbers, as in Area K, were similar to 1989, but were 37 % less than the previous 5 years and 23 % less than the previous 10 year mean. Large salmon numbers were 31 % less than 1989 and about 30 % less than long term means (Table 18). Area L harvested 32 % of SFA 13 small and 23 % of SFA 13 large salmon. This is similar to the previous 5 years when Area L harvested 37 % and 25 % respectively of small and large salmon in SFA 13 (Table 14, 18).

The largest recreational 1SW salmon harvest in SFA 13 was from Humber River (Table 23). Overall, the 1SW harvest was 110 % higher than 1989 and within about 10 % of the previous long term means (Table 27). 1SW harvests for Areas K and L were also about twice as high as 1989 and within 12 % of long term means (Table 30, 31). Recreational 1SW harvests and MSW hook and release catches for 1985-1990 management plans were lower than 1SW and MSW harvests for 1974-1977 and 1978-1984 management plan years (Fig. 5).

Salmon Fishing Area 14

The largest 1990 commercial harvest in SFA 14 was from Southern Labrador which caught 29 % of the small and 79 % of the large salmon. Excluding Southern Labrador the largest catch of small salmon was in Gros Morne N. while the largest catch of large was in Bonne Bay. Gros Morne N. also had the highest CPUE for small and the highest CPUE of large salmon was in Southern Labrador. Fifty percent of the small and large salmon on the Great Northern Peninsula portion of SFA 14 was caught by week 27. Fifty percent of the large salmon in Southern Labrador was also caught by week 27 but 50 % of the small catch did not occur until week 28 (Table 9, 10).

Commercial salmon harvest weight in SFA 14 was 43 % less than 1989 and about 50 % less than previous 5 and 10 year means. Small and large salmon numbers showed decreases similar to those for harvest weight, relative to 1989 and long term means, however, reduction in large number was slightly greater (Table 15). Commercial small and large salmon harvests for the Northern Peninsula portion of the Gulf Region in 1990 were reduced by more than one half the harvests for 1984-1989, 1978-1983 and 1974-1977 management plans (Fig. 6).

Area M commercial small salmon number was 12 % less than 1989 and about 40 % less than 5 and 10 year means. Large salmon harvest was about 80 % less than 1989 and long term means. Area M harvested 23 % of the initial 50 t quota for SFA 14 (Table 19).

Area N commercial small salmon number was about 40-60 % less than 1989, and long term means. Large salmon numbers were about 60 % less than 1989 and long term means. Area N harvested 16 % of the initial 50 t quota for SFA 14 (Table 20).

Area A(01) commercial small salmon number was about 50 % less than 1989 and the previous 5 year mean and 36 % below the previous 10 year mean. Large salmon harvest showed a greater reduction from 1989, previous 5 and 10 year means of 68 %, 58 % and 52 %, respectively. Area A(01) harvest was 3 % of the initial 50 t quota for SFA 14 (Table 21).

Area O(50) commercial small salmon number was 50-60 % less than 1989, 5 and 10 year means. Large salmon number showed similar reductions of 40-60 % from 1989, 5 and 10 year means (Table 22(a)). Area O(50) harvested 38 % of the initial 50 t quota for SFA 14 (weeks 25-28) and 41 % of the supplementary 10 t quota (weeks 29-33) (Table 22(b)) before closure of the season. Commercial fishery harvests of small and large salmon in Area O(50) were less than one half the harvests during 1984-1989, 1978-1983 and 1974-1977 management plans (Fig. 7).

The largest recreational 1SW harvest in SFA 14 was from River of Ponds followed by Portland Creek (Table 23). Total 1SW harvest in SFA 14 was 40 % higher than 1989 and similar to previous 5, 10 and 15 year means (Table 24). Area M showed the greatest increase in 1SW harvests at 75 % above 1989 and 35-45 % above long term means (Table 32). Area N 1SW harvest was 18 % greater than 1989 but 30-50 % less than long term means (Table 33). Area A(01) 1SW recreational harvest was 15 % greater than 1989 but 10-20 % less than previous long term means (Table 34). Area O(50) 1SW harvest was 10 % less than 1989 and about 20 % less than the previous long term means. MSW salmon harvest in Area O(50) was 83 % greater than 1989 but 40-50 % less than 5, 10 and 15 means (Table 35). 1SW recreational harvests for the Northern Peninsula and Southern Labrador for 1985-1990 were similar to harvests for 1978-1984 and 1974-1977 management plans. MSW recreational harvests for Southern Labrador and hook and release catches for the Northern Peninsula in 1978-1990 were similar to harvests during the 1978-1984 management plan years but below the 1974-1977 management plan harvests (Fig. 6, 7).

Return of 1SW salmon to Torrent River fishway in Area M for 1990, was 72 % greater than the 1989 return, 12 % greater than the previous 5 year mean and 20 % greater than the previous 10 year mean returns. Returns of 1SW salmon to the counting fence at Western Arm Brook in Area N, was reduced 50-70 % from 1989 and the long term means (Table 36).

SYNTHESIS

Gulf Region commercial salmon fishery harvests in 1990 were reduced from 1989 and from the recent 5 year mean harvests (Fig. 5, 6). In Southern Labrador, small and large salmon catches continued to decline as they have since 1974 (Fig. 7). Quota implementation for SFA 13 and 14 may have played a role in these reductions, however, it may not have been the only influencing factor, since in SFA 14 the entire quota of 60 t was not taken (Table 15).

The 1990 recreational catch of small salmon in SFA 12 was similiar to that since 1978 (Fig. 4). Harvests in SFA 13 and 14 were lower than those between 1974 and 1984 but similar to those recorded during similar management plan strategies implemented since 1985 (Fig. 5, 6, 7). Recreational harvests of small salmon increased in SFA's 12 and 13 and Area M of Insular Newfoundland. Only a slight increase in small salmon harvest was observed in the Great Northern Peninsula-Strait of Belle Isle area of SFA 14. Salmon returns to Western Arm Brook counting fence (Area N, SFA 14), were lower (Table 36). Southern Labrador total recreational harvest was down from 1989 whereas large salmon harvests were higher (Fig. 7). The effects of commercial harvest reductions on river escapement of small and large salmon in Insular Newfoundland were not clearly discernible from the 1990 recreational harvests and returns at monitoring facilities.

FORCAST

Commercial and recreational harvests of small salmon in Statistical Sections 45-49 (Areas M+N) in year i+1 were forecast using Western Arm Brook smolts in year i. However, the 1984/85 data point was excluded because of the relatively large residual value of the predicted catch for 1985. The high 1984 smolt value and the relatively low return of small salmon the following year must be explained by factors not described by the rest of the data. The 1989/90 data point is also excluded since it cannot be assumed that small salmon escaping the commercial fishery due to quota implementation in 1990 would result in proportional increases in recreational harvest. This method predicted a harvest of 17,708 for 1990 (Claytor and Mullins 1990). The actual catch was 13,134. Predicted harvest for 1991 is 16,767 (+- 11,205) which would be 18 % less than the previous five year mean (Table 19, 20, 32, 33). The formula for the regression is Total Harvest, Sections 45-49 (year i+1) = WAB smolts (year i) X 1.13 + 4825.17, $R^2 = 0.40$, $.01 < P < .05$.

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Table 1: Boundaries of Salmon Fishing Areas, Statistical Areas and Statistical Sections, Gulf Region, Newfoundland and Labrador.

Salmon Fishing Area	Statistical Area	Statistical Section	Boundary
12	J 2	38	Burgeo to Rose Blanche Point (Commercial Fishery).
12	J 2	38	Cinq Cerf Brook to Rose Blanche Point (Recreational Fishery).
12	J 2	39	Rose Blanche Point to Cape Ray
13	K	40	Cape Ray to Sandy Point.
13	K	41	Sandy Point to Cape St. George
13	L	42	Cape St. George to Long Point.
13	L	43	Long Point to Bluff Head
13	L	44	Bluff Head to Cape St. Gregory
14	M	45	Cape St. Gregory to Martins Point
14	M	46	Martins Point to Daniels Harbour
14	M	47	Daniels Harbour to Point Riche
14	N	48	Point Riche to Ferolle Point
14	N	49	Ferolle Point to Cape Norman
14	A	01	Cape Norman to Cape Bauld
14	0	50	Blanch Sablon to Cape Charles

Table 2. Map index and drainage area of Gulf Region, Newfoundland and Labrador rivers.

MAP #	RIVER NAME	DRAINAGE AREA (km2)
Statistical Area J_2		
1	East Bay Brook	57
2	LaPoile River	588
3	Farmer's Arm River	89
4	Garia River	228
5	Northwest Brook, Garia Bay	119
6	Burnt Island River	273
7	Isle aux Mort River	214
8	Grand Bay River	134
9	Northwest Brook, Grand Bay	65
10	Barachoix Brook, Cape Ray	49
Statistical Area K		
11	Bear Cove river	30
12	Little Codroy River	224
13	Grand Codroy River	956
14	Highlands River	183
15	Crabbe's River	551
16	Barachois River	241
17	Robinson's River	439
18	Fischell's Brook	360
19	Flat Bay Brook	635
20	Little Barachois Brook	354
21	Southwest and Bottom Brooks	814
22	Harry's River	816
Statistical Area L		
23	Fox Island River	194
24	Serpentine River	433
25	Cook's Brook	101
26	Humber River	7,679
27	*Hughes Brook	132
28	Goose Arm River	212
Statistical Area M		
29	Trout River	254
30	Lomond River	470

Table 2 (continued)

MAP #	RIVER NAME	DRAINAGE AREA (km2)
31	Deer Arm River	126
32	*Western Brook	192
33	Parson's Pond River	389
34	Portland Creek	985
35	River of Ponds	861
36	Little Brook Ponds	76
37	*Torrent River	619
38	East River, Hawkes Bay	136
39	Castor River	544
Statistical Area N		
40	St. Genevieve River	318
41	*Western Arm Brook	149
42	East River, St. Barbe	43
43	Eddies Cove Brook	90
44	Big Brook	212
45	Watson's Brook	95
Statistical Area A (01)		
46	Pincent's Brook	65
47	Parker River	46
48	Bartlett's Brook	40
49	Upper Brook	39
50	East River, Pistolet Bay	61
Statistical Area O (50)		
51	Forteau River	389
52	L'Anse-au-Loup Brook	130
53	Pinware River	2,486

* Indicates river with a fishway or counting fence.

Table 3. Recreational salmon seasons and closure dates due to low water levels for Gulf Region, Newfoundland, and Labrador scheduled rivers, 1990. Names in parentheses refer to river segments.

RIVER	QUOTA[1] (No. Fish)	SEASON OPEN	SEASON CLOSED	CLOSURE DATES
SFA 12				
Statistical Area J2				
East Bay Brook		Jun. 9	Sept. 3	No Closure
LaPoile River		Jun. 9	Sept. 3	No Closure
Farmer's Arm River		Jun. 9	Sept. 3	No CLosure
Garia River		Jun. 9	Sept. 3	No Closure
Northwest Brook, Garia Bay		Jun. 9	Sept. 3	No Closure
Burnt Island River		Jun. 9	Sept. 3	No CLosure
Isle aux Morts River		Jun. 9	Sept. 3	No CLosure
Grand Bay River		Jun. 9	Sept. 9	No Closure
Northwest Brook, Grand Bay		Jun. 6	Sept. 3	No Closure
Barachoix Brook, Cape Ray		Not scheduled		
SFA 13				
Statistical Area K				
Bear Cove River		Jun. 6	Sept. 3	No Closure
Little Cordroy River		Jun.23	Sept. 3	No Closure
Grand Codroy River (Main)		Jun. 6	Sept. 3	No Closure
Grand Codroy River (South)		Jun. 6	Sept. 3	No Closure
Grand Codroy River (North)		Jun. 6	Sept. 3	No Closure
Highlands River		Closed		
Crabbe's River		Jun. 6	Sept. 3	No Closure
Barachois River	175	Jun. 6	Sept. 3	No Closure
Robinson's River		Jun. 6	Sept. 3	No Closure
Fischell's Brook	200	Jun. 6	Sept. 3	No Closure
Flat Bay Brook[2]	250	Jun. 6	Sept. 3	Aug. 26-Sept. 3
Little Barachois Brook		Jun.23	Sept. 3	No Closure
Southwest & Bottom Brooks		Jun. 6	Sept. 3	No Closure
Harry's River (Low. &Mid.)[2]	350	Jun.23	Sept. 3	Aug. 26-Sept. 3
Harry's River (Pinchgut)		Jun.23	Sept. 3	Aug. 26-Sept. 3
Harry's River (Home Pool)		Jun.23	Sept. 3	Aug. 26-Sept. 3
Harry's River (Stag Pond)		Jun.23	Sept. 3	Aug. 26-Sept. 3
Statistical Area L				
Fox Island River[2]	50	Jun. 16	Sept.3	Aug. 18-Sept. 3
Serpentine River (Lower)[2]	100	Jun. 6	Sept.3	Jul. 14-Sept. 3
Serpentine River (Upper)		Jun. 6	Sept.3	Jul. 14-Sept. 3
Cook's Brook		Jun. 30	Sept.3	No Closure
Humber River (Lower)		Jun. 6	Sept.3	No Closure
Humber River (Deer Lake)[3]		Jun. 6	Sept.3	No Closure
Humber River (Little Falls)		Jun. 6	Sept.9	No Closure
Humber River (Big Falls)		Jun. 6	Sept.9	No Closure
Humber River (Adies Stream)		Jun. 6	Sept.3	No Closure
Humber River (Adies Lake)		Jun. 6	Sept.3	No CLosure
Humber RIver (Harriman's)		Jun. 6	Sept.9	No Closure
Humber River (Taylor's Bk.)		Jun. 6	Sept.3	No Closure
Hughes Brook		Closed		
Goose Arm River		Jun. 23	Sept.3	No Closure

Table 3. (Continued)

RIVER	QUOTA[1]	SEASON OPEN	SEASON CLOSED	CLOSURE DATES
SFA 14				
Statistical Area M				
Trout River		Jun. 16-Sept. 3		No Closure
Lomond River[2]	350	Jun. 16-Sept. 3		Jul. 25-Sept. 3
Deer Arm River		Jun. 16-Sept. 3		Jul. 25-Sept. 3
Western Brook		Closed		
Parsons Pond River		Jun. 16-Sept. 3		No Closure
Portland Creek (Main)		Jun. 16-Sept. 9		No Closure
Portland Creek (Upper)		Jun. 16-Sept. 9		No Closure
Portland Creek (Feeder)		Jun. 16-Sept. 9		No Closure
River of Ponds (Lower)		Jun. 16-Sept. 3		No Closure
River of Pond (Upper)		Jun. 16-Sept. 3		No Closure
River of Ponds (Bluey)		Jun. 16-Sept. 3		No Closure
Little Brook Ponds		JUn. 16-Sept. 3		No Closure
Torrent River[4]		Jul. 30-Sept. 3		No Closure
East River, Hawkes Bay		Jun. 16-Sept. 3		No Closure
Statistical Area N				
Castor River		Jun. 16-Sept. 3		No Closure
St. Genevieve River(Lower)		Jun. 6-Sept. 3		No Closure
St. Genevieve River (Falls)		Jun. 6-Sept. 3		No Closure
St. Genevieve River (Upper)		Jun. 6-Sept. 3		No Closure
Western Arm Brook		Closed		
East River, St. Barbe Bay		Jun. 16-Sept. 3		No Closure
Eddies Cove Brook		Not scheduled		
Big Brook (Lower)		Jun. 16-Sept. 3		No Closure
Big Brook (Upper)		Jun. 16-Sept. 3		No Closure
Watson's Brook	50	Jun. 16-Sept. 3		No Closure
Statistical Area A(01)				
Pincent's Brook	10	Jun. 16-Sept. 3		No Closure
Parker River		Jul. 14-Sept. 3		No Closure
Bartlett's Brook		Jun. 16-Sept. 3		No Closure
Upper Brook		Jun. 16-Sept. 3		No Closure
East River, Pistolet Bay		Jun. 16-Sept. 3		No Closure
Statistical Area O(50)				
Forteau River		Jun. 6-Sept. 9		No Closure
L'Anse-au-Loup Brook		Jun. 6-Sept. 9		No Closure
Pinware River		Jun. 6 Sept. 9		No Closure

1. Quotas apply to entire river.
2. Quota taken.
3. North Brook closed.
4. River open after 1000 passed through fishway.

Table 4. Commercial and recreational seasons for Gulf Region, Newfoundland and Labrador, in standardized weeks for years with similar management plans, 1974-1990.

Management Plan Years	Season by Standardized Week	Area
Commercial		
1974-1977	20-52	12, 13, 14
1978-1983	20-28	12
	22-28	13
	20-52	14
1984-1989	-	12 closed
	23-28	13
	23-52	14 (1984-1985)
	23-42	14 (1986-1989)
1990	-	12 closed
	23-27	13 (35 t quota)
	23-28	14 (50 t quota)
	29-31	Southern Labrador (10 t quota)
Recreational		
1974-1977	21-37	All Areas
1978-1984	25-35	12, 13, M, N, A(01)
	22-37	Southern Labrador
1985-1990[1]	24-36	Fox Point to Cape Ray
	23-35	Cape Ray to Salmon Point
	25-35	Salmon Point to Cape Bauld
	23-37	Southern Labrador

1. 1985-1990, a season bag limit of 15 salmon was introduced and anglers were required to release salmon >=63 cm in all Areas except Southern Labrador. Season bag limits were introduced in 1986.

Table 5. Communities within Coastal Areas in West Newfoundland and South Labrador.

Statistical Section	Coastal Area	Map Code	Community Name	Community Code
40	Codroy	1	St. Andrews	4014
		2	Codroy	4001
	St. Georges Bay Central	3	Highlands	4002
		4	Crabbes River	4015
		5	St. Davids	4003
		6	Jeffrey's	4004
		7	McKay's	4005
		8	Robinson's	4006
		9	Heatherton	4007
		10	Fischell's	4008
		11	St. Teresa	4012
41	Flat Bay	12	Flat Bay	4101
		13	St. George's	4103
		14	Barachoix Brook	4120
		15	Stephenville Crossing	4105
	St. Georges Bay North	16	Stephenville	4106
		17	Kippens	4107
		18	Port Au Port	4108
		19	Felix Cove	4109
		20	Campbells Creek	4110
		21	Abrahams Cove	4111
		22	Ship Cove	4114
		23	Lower Cove	4115
		24	Sheaves Cove	4116
		25	Marches Point	4117
		26	Degrau	4119
42	Port Au Port Peninsula	27	Mainland	4201
		28	Three Rock Cove	4202
43	Port Au Port Bay	29	Piccadilly	4303
		30	Fox Island River	4306
44	Bear Head	31	Lewis Brook	4418
		32	Shag Island	4419
		33	Serpentine	4421
		34	Batts Cove	4422
		35	Little Port	4401

Table 5. (continued)

	Bay of Islands South	36	Lark Harbour	4402
		37	York Harbour	4403
		38	Woods Island	4424
44	Humber Arm	39	Frenchman's Cove	4404
		40	Benoits Cove	4405
		41	Irishtown	4410
		42	Summerside	4411
		43	Meadows	4412
		44	Gillams	4413
		45	McIvers	4414
	North Arm	46	Cox's Cove	4415
		47	North Arm	4426
45	Trout River	48	Trout River	4501
	Bonne Bay	49	Woody Point	4502
		50	Norris Point	4503
		51	Neddies Harbour	4504
	Gros Morne South	52	Rocky Harbour	4505
		53	Bear Cove	4506
		54	Sally's Cove	4511
		55	Martins Point	4512
46	Gros Morne North	56	Gull's Marsh	4610
		57	St. Paul's	4602
		58	Cow Head	4603
	Parson's-Portland	59	Daniel's Harbour	4606
47	Pond's-Bellburns	60	Bellburns	4701
		61	River of Pond's	4702
	Spirity Point-Saunders	62	Spirity Cove	4703
		63	Port Saunders	4705
48	St. John Bay South	64	Port Au Choix	4801
		65	Eddies Cove West	4802
		66	Barr'd Harbour	4803

Table 5. (continued)

48	St. John Bay North	67	Castor River S.	4804
		68	Castor River N.	4807
		69	Bartlett's Harb.	4805
		70	New Ferrole	4806
49	Margaret-Brig	71	Shoal Cove	4901
		72	Reefs Harbour	4902
		73	Bird Cove	4903
		74	Brig Bay	4904
		75	Plum Point	4905
		76	Blue Cove	4906
		77	Pond Cove	4907
	Genevieve-Barbe	78	Current Island	4908
		79	Forresters Point	4909
		80	Black Duck Cove	4910
		81	Pigeon Cove	4926
		82	Anchor Point	4912
	St. Barbe North	83	Bear Cove	4914
		84	Flowers Cove	4915
		85	Nameless Cove	4916
		86	Savage Cove	4917
		87	Green Island Br.	4922
		88	Eddies Cove E.	4923
		89	Big Brook	4924
		90	Boat Harbour	4925
1	Pistolet Bay	91	Wild Bight	101
		92	Cook's Harbour	102
		93	Raleigh	103
	Hay Cove	94	Ship Cove	104
		95	Lanse Aux Meadows	105
		96	Hay Cove	106
		97	Straitsview	107
50	Southern Labrador	98	L'anse Au Clair	5001
		99	L'anse Armour	5005
		100	Fox Cove	5006
		101	L'anse Au Loup	5008
		102	Capstan Islands	5010
		103	West St. Modeste	5011
		104	Pinware	5012

Table 5. (continued)

50	Southern Labrador (cont'd)	105	Carrolls	5020
		106	Red Bay	5014
		107	Barge Bay	5016
		108	Henley Harbour	5019
		109	Camp Islands	5022
		110	Cape Charles	5024

Table 6. Standardized weeks used for processing Atlantic salmon catch statistics.

Week	Month	Days
1	January	01-07
2	January	08-14
3	January	15-21
4	January	22-28
5	February	29-04
6	February	05-11
7	February	12-18
8	February	19-25
9	March	26-04
10	March	05-11
11	March	12-18
12	March	19-25
13	March	26-01
14	April	02-08
15	April	09-15
16	April	16-22
17	April	23-29
18	May	30-06
19	May	07-13
20	May	14-20
21	May	21-27
22	May	28-03
23	June	04-10
24	June	11-17
25	June	18-24
26	June	25-01
27	July	02-08
28	July	09-15
29	July	16-22
30	July	23-29
31	August	30-05
32	August	06-12
33	August	13-19
34	August	20-26
35	August	27-02

Table 6. (continued)

Week	Month	Days
36	September	03-09
37	September	10-16
38	September	17-23
39	September	24-30
40	October	01-07
41	October	08-14
42	October	15-21
43	October	22-28
44	November	29-04
45	November	05-11
46	November	12-18
47	November	19-25
48	November	26-02
49	December	03-09
50	December	10-16
51	December	17-23
52	December	24-31

Table 7. Percentage local sales by weight for Statistical Sections, Gulf Region, Newfoundland and Labrador purchase slips and supplementary 'B' slips, 1987-1990 and commercial salmon fisherman reports (CFR), 1990.

	TOTAL WEIGHT (KG)			MEAN	%	TOTAL	%	CFR	CFR
				WT.	LOCAL	WT.	LOCAL	WT.	%
SECTION	1987	1988	1989	87-89	87-89	1990	1990	1990	LOCAL
40	17519	18754	19010	18428	44.4	12208	22.1	5920	40.1
41	28397	32915	12545	24619	48.8	16866	67.5	734	80.2
42	687	567	1116	790	82.6	831	60.9	365	16.7
43	61	1309	873	748	97.3	101	100.0	0	
44	19658	23912	12708	18759	16.6	13003	8.1	10406	28.3
SFA 13 TOTAL	66322	77457	46252	63344	38.9	43009	37.2	17425	34.3
45	9311	12512	5155	8993	47.1	6313	68.0	2613	55.9
46	20917	22139	9796	17617	84.6	3743	81.2	3542	62.1
47	5570	2558	2188	3439	33.6	1439	98.0	9344	25.0
48	13130	5509	4033	7557	23.6	2287	76.2	2127	69.8
49	12539	11950	10329	11606	6.6	5503	35.5	5739	36.0
50	81157	37770	41355	53427	13.0	23070	8.9	18239	2.7
1	3328	3759	3155	3414	40.7	1344	53.2	183	12.0
SFA 14 TOTAL	145952	96197	76011	106053	29.4	43699	34.8	41787	24.1

Table 8. Fish plant and local sales of Atlantic salmon for Gulf Region, Newfoundland and Labrador, 1990.

PLANT SALES - Purchase Slips

SECTION	SMALL NO.	SMALL KG	LARGE NO.	LARGE KG	UNSIZED NO.	UNSIZED KG	TOTAL NO.	TOTAL KG
40	2570	4019	1205	5486	1	1	3776	9506
41	2398	3991	370	1492	0	0	2768	5483
42	69	138	43	187	0	0	112	325
43	0	0	0	0	0	0	0	0
44	4727	9456	575	2497	1	4	5304	11957
SFA 13 TOT.	9764	17604	2193	9662	2	5	11959	27271
45	500	1123	80	388	143	508	724	2019
46	331	604	21	99	0	0	352	703
47	2	6	5	23	0	0	7	29
48	186	370	36	175	0	0	222	545
49	1778	3253	63	295	0	0	1841	3548
50	2612	5639	2822	15176	55	209	5490	21024
1	170	327	58	297	1	5	230	629
SFA 14 TOT.	5580	11322	3086	16453	199	722	8865	28497
PLANT TOT.	15345	28926	5279	26115	201	727	20825	55768

LOCAL SALES - Supplementary 'B' Slips

SECTION	SMALL NO.	SMALL KG	LARGE NO.	LARGE KG	UNSIZED NO.	UNSIZED KG	TOTAL NO.	TOTAL KG
40	1106	1729	214	973	0	0	1319	2702
41	5215	8680	670	2703	0	0	5885	11383
42	181	363	33	143	0	0	214	506
43	38	76	6	25	0	0	44	101
44	307	614	100	434	0	0	407	1048
SFA 13 TOT.	6847	11462	1022	4278	0	0	7869	15740
45	1486	3335	198	960	0	0	1684	4295
46	1668	3040	0	0	0	0	1668	3040
47	699	1410	0	0	0	0	699	1410
48	774	1538	42	205	0	0	817	1743
49	585	1070	190	885	0	0	775	1955
50	947	2045	0	0	0	0	947	2045
1	295	567	29	147	0	0	324	714
SFA 14 TOT.	6455	13005	460	2197	0	0	6915	15202
LOCAL TOT.	13302	24467	1482	6475	0	0	14784	30942
REGION TOT.	28646	53393	6761	32590	201	727	35609	86710

Table 9. Number of small salmon harvested in the Gulf Region, Newfoundland and Labrador commercial fishery, 1990, from purchase slip and suplementary 'B' data. Effort in Gear Units is for full-time fishermen. 1 g. u. = 50 fm gillnet.

COASTAL AREA	GEAR UNITS	WEEK 23	24	25	26	27	28	29	30	31	32	33	TOT.	PERCENT SFA
Codroy	32	3	28	129	79	43	0	0	0	0	0	0	282	1.7
St. George Central	68	256	675	1129	1176	181	0	0	0	0	0	0	3417	20.5
Flat Bay	72	376	596	1234	1362	619	0	0	0	0	0	0	4187	25.2
St. George N.	84	436	647	875	959	519	0	0	0	0	0	0	3436	20.6
Port au Port Pen.	16	12	115	14	15	95	0	0	0	0	0	0	251	1.5
Port au Port Bay	4	8	9	9	9	4	0	0	0	0	0	0	39	0.2
Bear Head	16	0	16	18	16	4	0	0	0	0	0	0	54	0.3
Bay of Islands S.	4	0	10	0	281	230	0	0	0	0	0	0	521	3.1
Humber Arm	64	36	99	238	629	105	0	0	0	0	0	0	1107	6.6
North Arm	68	1	250	1120	1524	459	0	0	0	0	0	0	3354	20.1
SFA 13 TOTAL	428	1128	2445	4766	6050	2259	0	0	0	0	0	0	16648	100.0
Trout River	68	69	81	81	90	191	147	126	0	0	0	0	785	6.4
Bonne Bay	84	40	85	190	251	47	284	0	0	0	0	0	897	7.3
Gros Morne S.	16	9	15	35	225	90	93	3	0	0	0	0	470	3.8
Gros Morne N.	52	0	46	14	948	109	632	0	0	0	0	0	1749	14.3
Parson's-Portland	8	27	32	32	36	63	54	0	0	0	0	0	244	2.0
Ponds-Bellburns	20	34	40	40	43	59	50	0	0	0	0	0	266	2.2
Spirity-Saunders	40	62	73	73	62	0	165	0	0	0	0	0	435	3.6
St. John Bay S.	64	22	443	26	23	214	145	13	0	0	0	0	886	7.3
St. John Bay N.	40	0	0	1	5	17	50	0	0	0	0	0	73	0.6
Margaret-Brig	88	2	2	2	144	764	367	0	0	0	0	0	1281	10.5
Genevieve-Barbe	56	14	16	16	65	143	126	0	0	0	0	0	380	3.1
St. Barbe N.	60	21	24	24	110	395	127	0	0	0	0	0	701	5.7
Pistolet Bay	56	0	0	0	8	28	24	95	0	0	0	0	155	1.3
Hay Cove	40	0	0	0	78	116	107	0	0	0	0	0	301	2.5
Southern Lab.	304	0	0	1	203	1206	1717	140	110	108	91	19	3595	29.4
SFA 14 TOTAL	996	300	857	535	2291	3442	4088	377	110	108	91	19	12218	100.0
REGION TOTAL	1424	1428	3302	5301	8341	5701	4088	377	110	108	91	19	28866	

Table 10. Number of large salmon harvested in the Gulf Region, Newfoundland and Labrador commercial fishery, 1990, from purchase slip and suplementary 'B' data. Effort in Gear Units is for full-time fishermen. 1 g. u. = 50 fm gillnet.

COASTAL AREA	GEAR UNITS	WEEK 23	24	25	26	27	28	29	30	31	32	33	TOT.	PERCENT SFA
Codroy	32	152	136	160	121	24	0	0	0	0	0	0	593	18.4
St. George Central	68	258	246	212	109	8	0	0	0	0	0	0	833	25.8
Flat Bay	72	103	131	174	122	53	0	0	0	0	0	0	583	18.1
St. George N.	84	26	128	152	62	90	0	0	0	0	0	0	458	14.2
Port au Port Pen.	16	3	42	3	3	25	0	0	0	0	0	0	76	2.4
Port au Port Bay	4	1	1	1	1	1	0	0	0	0	0	0	5	0.2
Bear Head	16	8	49	22	15	3	0	0	0	0	0	0	97	3.0
Bay of Islands S.	4	2	2	0	13	7	0	0	0	0	0	0	24	0.7
Humber Arm	64	25	65	55	38	2	0	0	0	0	0	0	185	5.7
North Arm	68	21	111	105	103	29	0	0	0	0	0	0	369	11.4
SFA 13 TOTAL	428	599	911	884	587	242	0	0	0	0	0	0	3223	100.0
Trout River	68	20	60	0	0	32	0	5	0	0	0	0	117	3.2
Bonne Bay	84	4	44	54	8	6	16	0	0	0	0	0	132	3.7
Gros Morne S.	16	1	8	9	21	12	6	2	0	0	0	0	59	1.6
Gros Morne N.	52	0	2	1	13	3	2	0	0	0	0	0	21	0.6
Parson's-Portland	8	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Ponds-Bellburns	20	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Spirity-Saunders	40	0	0	0	0	0	3	0	0	0	0	0	3	0.1
St. John Bay S.	64	0	6	0	3	8	3	1	0	0	0	0	21	0.6
St. John Bay N.	40	0	1	11	6	22	18	0	0	0	0	0	58	1.6
Margaret-Brig	88	1	1	4	27	38	23	0	0	0	0	0	94	2.6
Genevieve-Barbe	56	1	1	1	3	36	37	0	0	0	0	0	79	2.2
St. Barbe N.	60	1	1	1	9	43	30	0	0	0	0	0	85	2.4
Pistolet Bay	56	0	0	3	3	3	2	30	0	0	0	0	41	1.1
Hay Cove	40	0	0	0	15	21	11	0	0	0	0	0	47	1.3
Southern Lab.	304	0	0	84	731	972	490	20	14	158	372	17	2858	79.1
SFA 14 TOTAL	996	28	124	168	839	1196	641	58	14	158	372	17	3615	100.0
REGION TOTAL	1424	627	1035	1052	1426	1438	641	58	14	158	372	17	6838	

TABLE 11. Commercial harvests of small and large Atlantic salmon in Gulf Region, Newfoundland and Labrador, 1974-1990. Weight in kilograms. Area J_2 fishery closed 1984-1990, hence, years 1984-1990 are not directly comparable with earlier years.

GULF REGION - NEWFOUNDLAND AND LABRADOR

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	114526	67108	259585	52074	374111	119182	30.6	56.3
1975	99309	55888	233598	49718	332907	105606	29.8	52.9
1976	133685	75736	296829	66049	430514	141785	31.1	53.4
1977	71668	39957	264647	57669	336315	97626	21.3	40.9
1978	44315	24094	155216	33118	199531	57212	22.2	42.1
1979	78098	42512	88525	19491	166623	62003	46.9	68.6
1980	102292	49306	178753	36656	281045	85962	36.4	57.4
1981	73467	40480	138412	28326	211879	68806	34.7	58.8
1982	71919	38809	111579	25059	183498	63868	39.2	60.8
1983	62784	35429	101607	23190	164391	58619	38.2	60.4
1984	43423	23287	54838	11610	98261	34897	44.2	66.7
1985	46930	26879	33433	7775	80363	34654	58.4	77.6
1986	89668	51216	68973	15675	158641	66891	56.5	76.6
1987	116358	61073	95918	19482	212276	80555	54.8	75.8
1988	115989	62520	57800	12222	173789	74742	66.7	83.6
1989	70155	37868	52107	11585	122262	49453	57.4	76.6
1990	53821	28863	32887	6834	86708	35697	62.1	80.9
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	87820	47911	61646	13348	149466	61259	58.8	78.0
CL=+/-	37225	19042	28652	5500	62503	23502	5.8	3.9
N	5	5	5	5	5	5	5	5
PREV 10	79299	42687	89342	19158	168641	61845	48.7	69.4
CL=+/-	18678	9448	32172	6511	42437	12630	8.1	6.9
N	10	10	10	10	10	10	10	10

TABLE 12. Commercial harvests of small and large Atlantic salmon in Gulf Region, Insular Newfoundland, 1974-1990. Weight in kilograms. Area J_2 fishery closed 1984-1990, hence, years 1984-1990 are not directly comparable with earlier years.

GULF REGION - INSULAR NEWFOUNDLAND

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	95871	57780	181842	36211	277713	93991	34.5	61.5
1975	62639	36594	170184	34966	232823	71560	26.9	51.1
1976	106050	62584	228413	50860	334463	113444	31.7	55.2
1977	49147	28690	173214	39005	222361	67695	22.1	42.4
1978	36666	20068	100145	21403	136811	41471	26.8	48.4
1979	63002	35318	71493	15617	134495	50935	46.8	69.3
1980	83415	40813	132585	27518	216000	68331	38.6	59.7
1981	59786	33822	99927	20720	159713	54542	37.4	62.0
1982	57384	31430	84384	19093	141768	50523	40.5	62.2
1983	56204	32137	68342	15701	124546	47838	45.1	67.2
1984	38582	20866	24994	5392	63576	26258	60.7	79.5
1985	35831	19419	17517	3821	53348	23240	67.2	83.6
1986	75066	42920	42770	10333	117836	53253	63.7	80.6
1987	93371	49684	37748	8368	131119	58052	71.2	85.6
1988	100834	55433	35185	7631	136019	63064	74.1	87.9
1989	50865	28919	30043	6893	80908	35812	62.9	80.8
1990	46087	25272	17551	3976	63638	29248	72.4	86.4
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	71193	39275	32653	7409	103846	46684	67.8	83.7
CL=+/-	34281	18461	11952	2955	44121	20670	6.0	3.9
N	5	5	5	5	5	5	5	5
PREV 10	65134	35544	57350	12547	122483	48091	56.1	74.9
CL=+/-	15890	8358	26970	5590	34362	10803	10.2	7.8
N	10	10	10	10	10	10	10	10

TABLE 13. Commercial harvests of small and large Atlantic salmon in Salmon Fishing Area 12, 1974-1983. Weight in kilograms.

SALMON FISHING AREA: 12

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	60260	35446	151298	29663	211558	65109	28.5	54.4
1975	30843	17138	143112	29206	173955	46344	17.7	37.0
1976	50646	29789	198929	44200	249574	73989	20.3	40.3
1977	8604	4780	126286	28700	134890	33480	6.4	14.3
1978	2212	1055	74302	15809	76514	16864	2.9	6.3
1979	3701	2060	55556	12077	59257	14137	6.2	14.6
1980	14899	7385	93584	19253	108482	26638	13.7	27.7
1981	4591	2485	76247	15723	80838	18208	5.7	13.6
1982	3931	2108	64933	14734	68863	16842	5.7	12.5
1983	6658	3593	46694	10644	53352	14237	12.5	25.2
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1983:								
PREV 5	5867	3019	72924	15519	78791	18538	6.8	14.9
CL-+/-	6362	3101	17617	3198	22988	5915	5.0	9.7
N	5	5	5	5	5	5	5	5
PREV 10	19965	11361	109361	23263	129326	34623	11.9	24.5
CL-+/-	16996	10056	37114	8018	52546	17193	6.7	12.5
N	9	9	9	9	9	9	9	9

TABLE 14. Commercial harvests of small and large Atlantic salmon in Salmon Fishing Area 13, 1974-1990. Weight in kilograms.

SALMON FISHING AREA: 13

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	19784	12858	22886	5009	42670	17867	46.4	72.0
1975	13220	8422	15320	3289	28540	11711	46.3	71.9
1976	24960	15353	20176	4573	45136	19926	55.3	77.1
1977	24199	14633	29361	6482	53560	21115	45.2	69.3
1978	17300	10136	16247	3563	33547	13699	51.6	74.0
1979	23091	13661	8765	1938	31856	15599	72.5	87.6
1980	40230	19554	24826	5234	65056	24788	61.8	78.9
1981	27232	15327	10514	2260	37746	17587	72.1	87.1
1982	19742	11341	11188	2425	30930	13766	63.8	82.4
1983	20336	12431	12227	2936	32563	15367	62.5	80.9
1984	27274	14832	15120	3294	42394	18126	64.3	81.8
1985	18612	10144	13662	2998	32274	13142	57.7	77.2
1986	51465	29675	27859	6704	79324	36379	64.9	81.6
1987	45039	24443	21284	4655	66323	29098	67.9	84.0
1988	57744	32492	19848	4295	77592	36787	74.4	88.3
1989	27729	16491	18523	4190	46252	20681	60.0	79.7
1990	29067	16650	13942	3226	43009	19876	67.6	83.8
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	40118	22649	20235	4568	60353	27217	65.0	82.2
CL-+/-	20399	11511	6377	1672	25446	12721	8.2	5.3
N	5	5	5	5	5	5	5	5
PREV 10	33540	18673	17505	3899	51045	22572	64.9	82.2
CL-+/-	10073	5553	4257	995	13714	6339	3.7	2.5
N	10	10	10	10	10	10	10	10

TABLE 15. Commercial harvests of small and large Atlantic salmon in Salmon Fishing Area 14, 1974-1990. Weight in kilograms.

SALMON FISHING AREA: 14

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	34482	18804	85401	17402	119883	36206	28.8	51.9
1975	55246	30328	75166	17223	130412	47551	42.4	63.8
1976	58079	30594	77724	17276	135803	47870	42.8	63.9
1977	38865	20544	109000	22487	147865	43031	26.3	47.7
1978	24803	12903	64667	13746	89470	26649	27.7	48.4
1979	51306	26791	24204	5476	75510	32267	67.9	83.0
1980	47163	22367	60343	12169	107506	34536	43.9	64.8
1981	41644	22668	51651	10343	93295	33011	44.6	68.7
1982	48246	25360	35458	7900	83704	33260	57.6	76.2
1983	35790	19405	42686	9610	78476	29015	45.6	66.9
1984	16149	8455	39718	8316	55867	16771	28.9	50.4
1985	28318	16735	19771	4777	48089	21512	58.9	77.8
1986	38203	21541	41114	8971	79317	30512	48.2	70.6
1987	71319	36630	74634	14827	145953	51457	48.9	71.2
1988	58245	30028	37952	7927	96197	37955	60.5	79.1
1989	42426	21377	33584	7395	76010	28772	55.8	74.3
1990	24754	12213	18945	3608	43699	15821	56.6	77.2
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	47702	25262	41411	8779	89113	34042	54.5	74.6
CL-+/-	21169	9886	25183	4616	44904	14100	7.0	4.7
N	5	5	5	5	5	5	5	5
PREV 10	42750	22457	43691	9224	86441	31680	49.3	70.0
CL-+/-	10907	5368	10919	1980	19611	6683	6.8	6.0
N	10	10	10	10	10	10	10	10

Table 16. Commercial harvests of small and large Atlantic salmon in Statistical Area J_2, 1974-1983. Weight in kilograms.

STATISTICAL AREA: J_2

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	60260	35446	151298	29663	211558	65109	28.5	54.4
1975	30843	17138	143112	29206	173955	46344	17.7	37.0
1976	50646	29789	198929	44200	249574	73989	20.3	40.3
1977	8604	4780	126286	28700	134890	33480	6.4	14.3
1978	2212	1055	74302	15809	76514	16864	2.9	6.3
1979	3701	2060	55556	12077	59257	14137	6.2	14.6
1980	14899	7385	93584	19253	108482	26638	13.7	27.7
1981	4591	2485	76247	15723	80838	18208	5.7	13.6
1982	3931	2108	64933	14734	68863	16842	5.7	12.5
1983	6658	3593	46694	10644	53352	14237	12.5	25.2
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1983:								
PREV 5	5867	3019	72924	15519	78791	18538	6.8	14.9
CL-+/-	6362	3101	17617	3198	22988	5915	5.0	9.7
N	5	5	5	5	5	5	5	5
PREV 10	19965	11361	109361	23263	129326	34623	11.9	24.5
CL-+/-	16996	10056	37114	8018	52546	17193	6.7	12.5
N	9	9	9	9	9	9	9	9

TABLE 17. Commercial harvests of small and large Atlantic salmon in Statistical Area K, 1974-1990. Weight in kilograms.

STATISTICAL AREA: K

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	15670	10443	15810	3595	31480	14038	49.8	74.4
1975	8412	5606	11175	2431	19587	8037	43.0	69.8
1976	21277	13307	16460	3748	37737	17055	56.4	78.0
1977	19156	11976	22297	4958	41453	16934	46.2	70.7
1978	11835	7401	11568	2572	23403	9973	50.6	74.2
1979	16871	10550	6576	1462	23447	12012	72.0	87.8
1980	24030	11441	16070	3416	40100	14857	59.9	77.0
1981	18923	11097	6937	1573	25860	12670	73.2	87.6
1982	10425	6466	6477	1432	16902	7898	61.7	81.9
1983	12440	8228	9063	2289	21503	10517	57.9	78.2
1984	16335	9075	8156	1812	24491	10887	66.7	83.4
1985	11903	6613	9731	2162	21634	8775	55.0	75.4
1986	24657	15024	19689	4718	44346	19742	55.6	76.1
1987	28544	16133	17373	3804	45917	19937	62.2	80.9
1988	36498	21824	15307	3235	51805	25059	70.5	87.1
1989	18221	11523	13334	3097	31555	14620	57.7	78.8
1990	18420	11325	10654	2468	29074	13793	63.4	82.1
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	23965	14223	15087	3403	39051	17627	60.2	79.7
CL-+/-	11730	7004	4737	1170	15174	7665	8.0	5.8
N	5	5	5	5	5	5	5	5
PREV 10	20198	11742	12214	2754	32411	14496	62.0	80.6
CL-+/-	5913	3421	3385	767	8736	3971	4.5	3.1
N	10	10	10	10	10	10	10	10

TABLE 18. Commercial harvests of small and large Atlantic salmon in Statistical Area L, 1974-1990. Weight in kilograms.

STATISTICAL AREA: L

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	4114	2415	7076	1414	11190	3829	36.8	63.1
1975	4808	2816	4145	858	8953	3674	53.7	76.7
1976	3683	2046	3716	825	7399	2871	49.8	71.3
1977	5043	2657	7064	1524	12107	4181	41.7	63.6
1978	5465	2735	4679	991	10144	3726	53.9	73.4
1979	6220	3111	2189	476	8409	3587	74.0	86.7
1980	16200	8113	8756	1818	24956	9931	64.9	81.7
1981	8309	4230	3577	687	11886	4917	69.9	86.0
1982	9317	4875	4711	993	14028	5868	66.4	83.1
1983	7896	4203	3164	647	11060	4850	71.4	86.7
1984	10939	5757	6964	1482	17903	7239	61.1	79.5
1985	6709	3531	3931	836	10640	4367	63.1	80.9
1986	26808	14651	8170	1986	34978	16637	76.6	88.1
1987	16495	8310	3911	851	20406	9161	80.8	90.7
1988	21246	10668	4541	1060	25787	11728	82.4	91.0
1989	9508	4968	5189	1093	14697	6061	64.7	82.0
1990	10647	5325	3288	758	13935	6083	76.4	87.5
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	16153	8426	5148	1165	21302	9591	73.5	86.5
CL-+/-	10256	5543	2196	588	11865	6024	11.2	6.0
N	5	5	5	5	5	5	5	5
PREV 10	13343	6931	5291	1145	18634	8076	70.1	85.0
CL-+/-	4755	2531	1415	333	5670	2771	5.4	2.9
N	10	10	10	10	10	10	10	10

TABLE 19. Commercial harvests of small and large Atlantic salmon in Statistical Area M, 1974-1990. Weight in kilograms.

STATISTICAL AREA: M

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	8933	5257	5207	1043	14140	6300	63.2	83.4
1975	10098	5937	6901	1444	16999	7381	59.4	80.4
1976	21568	11986	7285	1620	28853	13606	74.8	88.1
1977	8430	4437	9949	2166	18379	6603	45.9	67.2
1978	12082	6046	5795	1225	17877	7271	67.6	83.2
1979	22061	11038	4179	926	26240	11964	84.1	92.3
1980	13351	6668	7646	1651	20997	8319	63.6	80.2
1981	13290	8300	5866	1227	19156	9527	69.4	87.1
1982	12115	6528	4115	887	16230	7415	74.7	88.0
1983	23551	13100	6804	1515	30355	14615	77.6	89.6
1984	4247	2359	6892	1436	11139	3795	38.1	62.2
1985	8274	4597	2466	514	10740	5111	77.0	89.9
1986	7171	3952	6219	1486	13390	5438	53.6	72.7
1987	24714	12059	11085	2530	35799	14589	69.0	82.7
1988	26700	13807	10509	2390	37209	16197	71.8	85.2
1989	10617	5539	6522	1563	17139	7102	62.0	78.0
1990	9893	4847	1603	330	11496	5177	86.1	93.6
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	15495	7991	7360	1697	22855	9687	66.7	81.7
CL-+/-	11710	5697	4379	1008	15738	6573	11.3	8.2
N	5	5	5	5	5	5	5	5
PREV 10	14403	7691	6812	1520	21215	9211	65.7	81.6
CL-+/-	5623	2873	1849	433	7035	3162	8.7	6.3
N	10	10	10	10	10	10	10	10

TABLE 20. Commercial harvests of small and large Atlantic salmon in Statistical Area N, 1974-1990. Weight in kilograms.

STATISTICAL AREA: N

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	6141	3840	2118	425	8259	4265	74.4	90.0
1975	6862	4289	4041	843	10903	5132	62.9	83.6
1976	7987	4993	1266	283	9253	5276	86.3	94.6
1977	7045	4404	6563	1431	13608	5835	51.8	75.5
1978	2373	1484	2811	594	5184	2078	45.8	71.4
1979	11919	7449	2154	477	14073	7926	84.7	94.0
1980	14341	6926	5487	1164	19828	8090	72.3	85.6
1981	14019	7370	5669	1179	19688	8549	71.2	86.2
1982	20736	11002	3770	969	24506	11971	84.6	91.9
1983	4600	2426	1897	450	6497	2876	70.8	84.4
1984	5472	2880	2916	648	8388	3528	65.2	81.6
1985	7815	4113	1339	298	9154	4411	85.4	93.2
1986	15235	8489	7572	1858	22807	10347	66.8	82.0
1987	21496	12106	4173	956	25669	13062	83.7	92.7
1988	13996	7907	3463	692	17459	8599	80.2	92.0
1989	10538	5889	3824	865	14362	6754	73.4	87.2
1990	6231	3321	1559	332	7790	3653	80.0	90.9
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	13816	7701	4074	934	17890	8635	77.9	89.4
CL-+/-	6445	3737	2788	714	8181	4114	9.6	5.9
N	5	5	5	5	5	5	5	5
PREV 10	12825	6911	4011	908	16836	7819	75.4	87.7
CL-+/-	4135	2295	1324	315	4964	2477	5.4	3.2
N	10	10	10	10	10	10	10	10

TABLE 21. Commercial harvests of small and large Atlantic salmon in Statistical Area A, Section 1, 1974-1990. Weight in kilograms.

STATISTICAL AREA: A(01)

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	753	379	333	71	1086	450	69.3	84.2
1975	1616	808	810	184	2426	992	66.6	81.5
1976	889	463	757	184	1646	647	54.0	71.6
1977	869	436	1055	226	1924	662	45.2	65.9
1978	2699	1347	990	212	3689	1559	73.2	86.4
1979	2230	1110	839	199	3069	1309	72.7	84.8
1980	594	280	1042	216	1636	496	36.3	56.5
1981	654	340	1631	331	2285	671	28.6	50.7
1982	860	451	378	78	1238	529	69.5	85.3
1983	1059	587	720	156	1779	743	59.5	79.0
1984	1589	795	66	14	1655	809	96.0	98.3
1985	1130	565	50	11	1180	576	95.8	98.1
1986	1195	804	1120	285	2315	1089	51.6	73.8
1987	2122	1076	1206	227	3328	1303	63.8	82.6
1988	2394	1227	1365	254	3759	1481	63.7	82.9
1989	1981	1000	1174	275	3155	1275	62.8	78.4
1990	896	454	447	88	1343	542	66.7	83.8
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	1764	934	983	210	2747	1145	67.5	83.2
CL-+/-	707	319	657	141	1268	431	20.6	11.3
N	5	5	5	5	5	5	5	5
PREV 10	1358	713	875	185	2233	897	62.8	78.6
CL-+/-	452	230	392	82	648	258	15.5	11.0
N	10	10	10	10	10	10	10	10

TABLE 22(a). Commercial harvests of small and large Atlantic salmon in Statistical Area 0, Section 50, 1974-1990. Weight in kilograms.

STATISTICAL AREA: 0(50)

	SMALL		LARGE		TOTAL		PERCENT SMALL	
YEAR	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER
1974	18655	9328	77743	15863	96398	25191	19.4	37.0
1975	36670	19294	63414	14752	100084	34046	36.6	56.7
1976	27635	13152	68416	15189	96051	28341	28.8	46.4
1977	22521	11267	91433	18664	113954	29931	19.8	37.6
1978	7649	4026	55071	11715	62720	15741	12.2	25.6
1979	15096	7194	17032	3874	32128	11068	47.0	65.0
1980	18877	8493	46168	9138	65045	17631	29.0	48.2
1981	13681	6658	38485	7606	52166	14264	26.2	46.7
1982	14535	7379	27195	5966	41730	13345	34.8	55.3
1983	6580	3292	33265	7489	39845	10781	16.5	30.5
1984	4841	2421	29844	6218	34685	8639	14.0	28.0
1985	11099	7460	15916	3954	27015	11414	41.1	65.4
1986	14602	8296	26203	5342	40805	13638	35.8	60.8
1987	22987	11389	58170	11114	81157	22503	28.3	50.6
1988	15155	7087	22615	4591	37770	11678	40.1	60.7
1989	19290	8949	22064	4692	41354	13641	46.7	65.6
1990	7734	3591	15336	2858	23070	6449	33.5	55.7
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:								
PREV 5	16627	8636	28994	5939	45620	14575	38.4	60.6
CL-+/-	5702	2112	20765	3644	25688	5656	8.5	7.6
N	5	5	5	5	5	5	5	5
PREV 10	14165	7142	31993	6611	46157	13753	31.3	51.2
CL-+/-	4002	1877	9037	1607	11429	2789	7.5	9.6
N	10	10	10	10	10	10	10	10

TABLE 22(B). Commercial harvests of small and large Atlantic salmon, by standardized week, Statistical Section 50, 1990. Weight in kilograms.

STATISTICAL SECTION 50

	CATCH (KG)				ADJUSTED CATCH (KG)		MEAN WEIGHT (KG) SMALL		MEAN WEIGHT (KG) LARGE		ESTIMATED NUMBERS		
WEEK	SMALL	LARGE	UNSIZED	TOTAL	SMALL	LARGE	WT	N	WT	N	SMALL	LARGE	TOTAL
25	2	455	0	458	2	455	0.0	0	5.5	33	1	84	85
26	434	4107	10	4551	435	4117	2.1	152	5.7	611	202	731	933
27	2558	5171	37	7766	2563	5203	2.1	627	5.4	753	1206	973	2179
28	3731	2474	0	6206	3731	2474	2.2	1012	5.0	413	1716	491	2207
29	296	100	7	403	299	105	2.1	28	4.9	9	139	20	159
30	237	62	0	299	237	62	2.1	22	4.4	8	110	13	123
31	232	828	13	1072	233	839	2.2	12	4.8	12	108	157	265
32	160	1931	102	2193	194	1999	2.0	8	5.2	8	90	372	462
33	34	46	42	122	40	82	1.6	1	4.2	7	19	17	36
TOTAL	7685	15176	209	23070	7734	15336	2.2	1862	5.4	1854	3591	2858	6449

TABLE 23. Recreational harvest of Atlantic Salmon in Gulf Region, Newfoundland and Labrador rivers in 1989-90. All salmon hook and released except in Area O(50).

SFA	AREA	RIVER	TOTALS FOR 1990 ROD DAY	TOTALS FOR 1990 GRILSE	TOTALS FOR 1990 SALMON	TOTALS FOR 1989 ROD DAY	TOTALS FOR 1989 GRILSE	TOTALS FOR 1989 SALMON
12	J2	La Poile River	735	219	19	654	153	6
		Farmers Arm River	350	57	0	173	19	0
		Garia River	190	96	8	234	53	3
		Northwest River, Garia River	79	13	0	124	10	0
		Burnt Island River,(Grandys Brook)	924	250	2	785	142	0
		Isle aux Morts River	453	110	0	374	63	1
		Grand Bay River (incl. N.W. Brook)	329	108	0	313	120	0
13	K	Bear Cove River	297	3	0	293	40	0
		Little Codroy River	390	102	18	324	56	0
		Grand Codroy River	4885	1254	123	3906	635	66
		Crabbes River	457	112	25	419	47	5
		Barachois River	547	138	7	395	79	1
		Robinsons River	1182	232	22	971	116	11
		Fischells Brook	257	116	8	110	17	0
		Flat Bay Brook	939	277	6	612	130	1
		Little Barachois Brook	206	25	0	89	15	0
		Southwest and Bottom Brooks	1721	403	13	1290	258	16
		Harrys River	2182	705	22	1961	324	5
	L	Fox Island River (Fox Brook)	596	87	1	375	38	0
		Serpentine River (Coal River)	245	129	13	494	107	15
		Cooks Brook	78	17	0	195	33	1
		Humber River	7008	3054	75	6279	1217	10
		Goose Arm River	866	35	0	835	62	0
14	M	Trout River	513	18	0	224	3	0
		Lomond River	1938	386	17	1714	270	5
		Parsons Pond River	316	35	0	294	19	0
		Portland Creek	3741	1388	107	3906	374	38
		River of Ponds	3680	1492	5	4065	1325	0
		Little Brook Ponds	447	127	0	377	51	0
		Torrent River	629	222	4	559	143	0
		East River (Big East River)	775	257	0	489	56	0
	N	Castor River	949	344	0	1207	378	1
		Ste. Genevieve River	1675	573	0	1499	438	0
		East River (Eastern Arm Brook)	68	14	0	46	17	0
		Big Brook	484	74	1	289	47	0
		Watsons Brook (Watts Bight Brook)	181	36	0	135	6	0
	A(01)	Pincents Brook	119	10	0	86	6	0
		Parker River (West River)	456	21	0	786	20	0
		Bartletts Brook	192	35	0	146	12	0
		Upper Brook	191	13	0	258	17	0
		East River, Pistolet Bay	89	10	0	148	21	0
	O(50)	Forteau River	1261	324	7	1478	355	6
		LAnse-Au-Loup River	715	88	0	777	136	1
		Pinware River	3100	654	90	2640	682	46

TABLE 24. Total recreational harvests (estimated + observed) of Atlantic salmon in Gulf Region, Newfoundland and Labrador, 1974-1990.

NEWFOUNDLAND AND LABRADOR

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	43018	11707	1333	13040	0.30	.
1975	44896	18400	1150	19550	0.44	91.1
1976	54890	20559	1041	21600	0.39	94.6
1977	46697	14639	2162	16801	0.36	90.5
1978	35473	9469	1130	10599	0.30	92.8
1979	34528	14221	301	14522	0.42	96.9
1980	40183	13414	1539	14953	0.37	90.2
1981	47948	17940	1037	18977	0.40	92.8
1982	47448	17155	797	17952	0.38	95.7
1983	47670	12804	817	13621	0.29	95.5
1984	46236	15487	649	16136	0.35	95.2
1985	40930	11169 (316)	416	11585	0.28	97.4
1986	49245	14402 (826)	1010	15412	0.31	91.7
1987	43153	13354 (410)	625	13979	0.32	95.8
1988	52638	17473 (600)	851	18324	0.35	94.0
1989	42328	8110 (185)	238	8348	0.20	98.7
1990	46435	13663 (496)	593	14256	0.31	93.2
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	45659	12902	628	13530	0.30	95.8
CL-+/-	5033	4360	389	4702	0.05	1.3
N	5	5	5	5	5	5
PREV 10	45778	14131	798	14929	0.33	94.9
CL-+/-	4000	2194	257	2335	0.04	1.2
N	10	10	10	10	10	10
PREV 15	44951	14573	918	15491	0.34	94.2
CL-+/-	5676	1891	271	1982	0.03	1.5
N	15	15	15	15	15	15

Numbers in parentheses refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 25. Total recreational harvests (estimated + observed) of Atlantic salmon in Gulf Region, Insular Newfoundland, 1974-1990.

INSULAR NEWFOUNDLAND

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	40305	10967	1042	12009	0.30	.
1975	42716	17331	996	18327	0.43	91.7
1976	50994	18061	731	18792	0.37	96.0
1977	42779	12977	1569	14546	0.34	92.0
1978	33060	8896	947	9843	0.30	93.2
1979	32379	13320	182	13502	0.42	98.0
1980	37707	12476	1202	13678	0.36	91.7
1981	44595	16242	817	17059	0.38	93.9
1982	44169	15884	717	16601	0.38	95.8
1983	44141	10804	687	11491	0.26	95.9
1984	42239	14500	464	14964	0.35	95.9
1985	37266	10077	316	10393	0.28	97.9
1986	44602	13331	826	14157	0.32	92.4
1987	38160	11467	410	11877	0.31	97.0
1988	46931	15881	600	16481	0.35	95.0
1989	37433	6937	185	7122	0.19	98.8
1990	41359	12597	496	13093	0.32	93.3
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	40878	11539	467	12006	0.29	96.5
CL-+/-	4550	4182	312	4439	0.05	1.3
N	5	5	5	5	5	5
PREV 10	41724	12760	622	13382	0.32	95.6
CL-+/-	3695	2155	211	2270	0.04	1.1
N	10	10	10	10	10	10
PREV 15	41278	13212	710	13922	0.34	95.0
CL-+/-	5143	1769	210	1836	0.03	1.3
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 26. Total recreational harvests (estimated + observed) of Atlantic salmon in Salmon Fishing Area 12, 1974-1990.

SALMON FISHING AREA: 12

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	1423	658	13	671	0.47	.
1975	1204	510	20	530	0.44	97.1
1976	926	297	5	302	0.33	99.0
1977	1238	558	48	606	0.49	86.1
1978	1305	366	20	386	0.30	96.5
1979	1711	733	10	743	0.43	97.3
1980	2175	820	29	849	0.39	96.2
1981	2038	1060	17	1077	0.53	98.0
1982	2810	1555	15	1570	0.56	98.6
1983	2648	667	8	675	0.25	99.5
1984	3590	1922	68	1990	0.55	90.7
1985	3722	1097	30	1127	0.30	98.5
1986	3430	938	33	971	0.28	97.1
1987	2212	829	27	856	0.39	97.2
1988	3607	1413	23	1436	0.40	97.3
1989	2657	560	10	570	0.21	99.3
1990	3060	853	29	882	0.29	95.1
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	3126	967	25	992	0.32	98.1
CL-+/-	658	393	11	399	0.06	0.9
N	5	5	5	5	5	5
PREV 10	2889	1086	26	1112	0.38	97.7
CL-+/-	650	305	12	313	0.08	0.7
N	10	10	10	10	10	10
PREV 15	2352	888	24	913	0.39	97.4
CL-+/-	956	253	9	258	0.07	0.8
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 27. Total recreational harvests (estimated + observed) of Atlantic salmon in Salmon Fishing Area 13, 1974-1990.

SALMON FISHING AREA: 13

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	29313	7189	916	8105	0.28	.
1975	32253	12003	886	12889	0.40	89.0
1976	32922	10383	626	11009	0.33	95.0
1977	24474	6712	1049	7761	0.32	90.8
1978	19686	5289	855	6144	0.31	88.7
1979	16383	6009	113	6122	0.37	97.9
1980	21313	7913	993	8906	0.42	85.8
1981	23839	9300	663	9963	0.42	92.3
1982	25246	9566	595	10161	0.40	94.0
1983	25473	6337	610	6947	0.27	94.0
1984	22152	7771	309	8080	0.36	95.4
1985	20137	5302	257	5559	0.28	96.8
1986	25707	7346	691	8037	0.31	88.5
1987	20887	6018	342	6360	0.30	95.6
1988	24356	8217	406	8623	0.35	93.7
1989	18548	3174	131	3305	0.18	98.4
1990	21856	6689	333	7022	0.32	90.5
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	21927	6011	365	6377	0.29	95.0
CL=+/-	2995	2420	260	2627	0.05	2.0
N	5	5	5	5	5	5
PREV 10	22766	7094	500	7594	0.33	93.7
CL=+/-	2506	1385	184	1506	0.04	1.6
N	10	10	10	10	10	10
PREV 15	23558	7423	568	7991	0.34	93.1
CL=+/-	4578	1253	166	1336	0.03	1.6
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 28. Total recreational harvests (estimated + observed) of Atlantic salmon in Salmon Fishing Area 14, 1974-1990.

SALMON FISHING AREA: 14

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	12282	3860	404	4264	0.35	.
1975	11439	5887	244	6131	0.54	94.1
1976	21042	9879	410	10289	0.49	93.5
1977	20985	7369	1065	8434	0.40	90.3
1978	14482	3814	255	4069	0.28	96.7
1979	16434	7479	178	7657	0.47	95.5
1980	16695	4681	517	5198	0.31	93.5
1981	22071	7580	357	7937	0.36	92.9
1982	19392	6034	187	6221	0.32	97.6
1983	19549	5800	199	5999	0.31	96.8
1984	20494	5794	272	6066	0.30	95.5
1985	17071	4770 (29)	129	4899	0.29	97.8
1986	20108	6118 (102)	286	6404	0.32	94.3
1987	20054	6507 (41)	256	6763	0.34	96.0
1988	24675	7843 (171)	422	8265	0.33	93.9
1989	21123	4376 (44)	97	4473	0.21	98.8
1990	21519	6121 (134)	231	6352	0.30	95.0
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	20606	5923	238	6161	0.30	96.3
CL=+/-	2733	1733	162	1892	0.05	1.1
N	5	5	5	5	5	5
PREV 10	20123	5950	272	6223	0.31	95.8
CL=+/-	2299	830	94	872	0.03	1.1
N	10	10	10	10	10	10
PREV 15	19041	6262	325	6587	0.35	95.0
CL=+/-	3300	876	130	930	0.04	1.6
N	15	15	15	15	15	15

Numbers in parenthese refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 29. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area J_2, 1974-1990.

STATISICAL AREA: J_2

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	1423	658	13	671	0.47	.
1975	1204	510	20	530	0.44	97.1
1976	926	297	5	302	0.33	99.0
1977	1238	558	48	606	0.49	86.1
1978	1305	366	20	386	0.30	96.5
1979	1711	733	10	743	0.43	97.3
1980	2175	820	29	849	0.39	96.2
1981	2038	1060	17	1077	0.53	98.0
1982	2810	1555	15	1570	0.56	98.6
1983	2648	667	8	675	0.25	99.5
1984	3590	1922	68	1990	0.55	90.7
1985	3722	1097	30	1127	0.30	98.5
1986	3430	938	33	971	0.28	97.1
1987	2212	829	27	856	0.39	97.2
1988	3607	1413	23	1436	0.40	97.3
1989	2657	560	10	570	0.21	99.3
1990	3060	853	29	882	0.29	95.1
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	3126	967	25	992	0.32	98.1
CL-+/-	658	393	11	399	0.06	0.9
N	5	5	5	5	5	5
PREV 10	2889	1086	26	1112	0.38	97.7
CL-+/-	650	305	12	313	0.08	0.7
N	10	10	10	10	10	10
PREV 15	2352	888	24	913	0.39	97.4
CL-+/-	956	253	9	258	0.07	0.8
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 30. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area K, 1974-1990.

STATISTICAL AREA: K

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	18946	4322	744	5066	0.27	.
1975	21678	5771	756	6527	0.30	85.1
1976	20964	5121	554	5675	0.27	91.2
1977	17209	4355	994	5349	0.31	83.7
1978	11084	2327	597	2924	0.26	87.9
1979	7751	2572	84	2656	0.34	96.5
1980	12316	4213	673	4886	0.40	79.3
1981	14311	4911	500	5411	0.38	89.4
1982	15417	5045	469	5514	0.36	91.3
1983	16480	3075	554	3629	0.22	90.1
1984	14783	4847	262	5109	0.35	92.1
1985	12779	2871	246	3117	0.24	95.2
1986	16588	3819	430	4249	0.26	87.0
1987	12346	2807	216	3023	0.24	94.6
1988	14393	3834	230	4064	0.28	92.4
1989	10370	1717	105	1822	0.18	97.3
1990	13063	3367	244	3611	0.28	87.6
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	13295	3010	245	3255	0.24	93.7
CL=+/-	2333	1087	145	1205	0.03	2.3
N	5	5	5	5	5	5
PREV 10	13978	3714	369	4082	0.29	91.2
CL=+/-	1999	780	130	857	0.04	2.1
N	10	10	10	10	10	10
PREV 15	14565	3819	445	4264	0.29	90.0
CL=+/-	3746	668	142	753	0.03	2.3
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 31. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area L, 1974-1990.

STATISTICAL AREA: L

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	10367	2867	172	3039	0.29	.
1975	10575	6232	130	6362	0.60	95.7
1976	11958	5262	72	5334	0.45	98.9
1977	7265	2357	55	2412	0.33	99.0
1978	8602	2962	258	3220	0.37	90.1
1979	8632	3437	29	3466	0.40	99.0
1980	8997	3700	320	4020	0.45	91.5
1981	9528	4389	163	4552	0.48	95.8
1982	9829	4521	126	4647	0.47	97.2
1983	8993	3262	56	3318	0.37	98.8
1984	7369	2924	47	2971	0.40	98.6
1985	7358	2431	11	2442	0.33	99.6
1986	9119	3527	261	3788	0.42	90.3
1987	8541	3211	126	3337	0.39	96.6
1988	9963	4383	176	4559	0.46	94.8
1989	8178	1457	26	1483	0.18	99.4
1990	8793	3322	89	3411	0.39	94.2
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	8632	3002	120	3122	0.36	96.5
CL-+/-	981	1380	130	1483	0.09	2.1
N	5	5	5	5	5	5
PREV 10	8788	3381	131	3512	0.40	96.5
CL-+/-	925	687	73	732	0.05	1.5
N	10	10	10	10	10	10
PREV 15	8994	3604	124	3727	0.41	96.8
CL-+/-	1273	669	53	686	0.05	1.2
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 32. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area M, 1974-1990.

STATISTICAL AREA: M

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	5672	1300	98	1398	0.25	.
1975	5458	2056	74	2130	0.39	94.6
1976	12781	4275	66	4341	0.34	96.9
1977	12350	3151	454	3605	0.29	90.4
1978	8718	1800	59	1859	0.21	98.2
1979	9805	3171	46	3217	0.33	97.5
1980	10202	2016	148	2164	0.21	95.5
1981	13767	3224	98	3322	0.24	95.4
1982	11267	2554	53	2607	0.23	98.4
1983	10832	1721	51	1772	0.16	98.0
1984	11483	2996	84	3080	0.27	95.3
1985	9423	2213	26	2239	0.24	99.1
1986	11022	3263	98	3361	0.30	95.8
1987	10571	2887	35	2922	0.28	98.9
1988	12811	3945	168	4113	0.32	94.5
1989	11628	2241	43	2284	0.20	98.9
1990	12039	3925	133	4058	0.34	94.4
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	11091	2910	74	2984	0.27	97.6
CL-+/-	1255	906	74	975	0.05	1.3
N	5	5	5	5	5	5
PREV 10	11301	2706	80	2786	0.25	97.2
CL-+/-	1250	486	34	505	0.03	0.9
N	10	10	10	10	10	10
PREV 15	10808	2768	100	2868	0.27	96.4
CL-+/-	2014	424	59	443	0.03	1.7
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 33. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area N, 1974-1990.

STATISTICAL AREA: N

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	3210	1789	15	1804	0.56	.
1975	3344	2716	16	2732	0.82	99.1
1976	3533	3014	34	3048	0.86	98.8
1977	3376	2413	18	2431	0.72	99.4
1978	2687	1350	13	1363	0.51	99.5
1979	3818	3281	13	3294	0.86	99.0
1980	3380	1651	32	1683	0.50	99.0
1981	4324	2511	31	2542	0.59	98.2
1982	4324	2156	54	2210	0.51	97.9
1983	4320	1947	16	1963	0.45	99.3
1984	4633	1753	3	1756	0.38	99.8
1985	3463	1377	3	1380	0.40	99.8
1986	3938	1648	4	1652	0.42	99.7
1987	3839	1656	6	1662	0.43	99.6
1988	5214	2148	3	2151	0.41	99.8
1989	3176	886	1	887	0.28	100.0
1990	3357	1041	1	1042	0.31	99.9
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	3926	1543	3	1546	0.39	99.8
CL-+/-	782	572	2	573	0.05	0.1
N	5	5	5	5	5	5
PREV 10	4061	1773	15	1789	0.44	99.2
CL-+/-	626	324	13	332	0.05	0.6
N	10	10	10	10	10	10
PREV 15	3825	2034	16	2050	0.54	99.2
CL-+/-	649	366	8	370	0.09	0.3
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 34. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area A, Section 1, 1974-1990.

STATISTICAL AREA: A(01)

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	687	31	0	31	0.05	.
1975	457	46	0	46	0.10	100.0
1976	832	92	0	92	0.11	100.0
1977	1341	143	0	143	0.11	100.0
1978	664	91	0	91	0.14	100.0
1979	662	126	0	126	0.19	100.0
1980	637	76	0	76	0.12	100.0
1981	627	147	8	155	0.25	90.5
1982	522	53	0	53	0.10	100.0
1983	868	132	2	134	0.15	96.4
1984	381	58	0	58	0.15	100.0
1985	521	88	0	88	0.17	100.0
1986	505	136	0	136	0.27	100.0
1987	651	77	0	77	0.12	100.0
1988	943	158	0	158	0.17	100.0
1989	1424	76	0	76	0.05	100.0
1990	1047	89	0	89	0.09	100.0
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	809	107	0	107	0.13	100.0
CL-+/-	386	47	0	47	0.07	0.0
N	5	5	5	5	5	5
PREV 10	708	100	1	101	0.14	99.1
CL-+/-	303	28	2	29	0.05	1.4
N	10	10	10	10	10	10
PREV 15	736	100	1	101	0.14	99.3
CL-+/-	304	21	1	21	0.03	1.0
N	15	15	15	15	15	15

Numbers of MSW salmon from 1985-90 refer to hooked and released fish.
Percent 1SW is calculated by year of smolt migration.

TABLE 35. Total recreational harvests (estimated + observed) of Atlantic salmon in Statistical Area O, Section 50, 1974-1990.

STATISTICAL AREA: O(50)

YEAR	EFFORT ROD-DAYS	1SW <63CM	MSW >63CM	TOTAL CATCH	CPUE	PERCENT 1SW
1974	2713	740	291	1031	0.38	.
1975	2180	1069	154	1223	0.56	82.8
1976	3896	2498	310	2808	0.72	77.5
1977	3918	1662	593	2255	0.58	80.8
1978	2413	573	183	756	0.31	90.1
1979	2149	901	119	1020	0.47	82.8
1980	2476	938	337	1275	0.51	72.8
1981	3353	1698	220	1918	0.57	81.0
1982	3279	1271	80	1351	0.41	95.5
1983	3529	2000	130	2130	0.60	90.7
1984	3997	987	185	1172	0.29	91.5
1985	3664	1092	100	1192	0.33	90.8
1986	4643	1071	184	1255	0.27	85.6
1987	4993	1887	215	2102	0.42	83.3
1988	5707	1592	251	1843	0.32	88.3
1989	4895	1173	53	1226	0.25	96.8
1990	5076	1066	97	1163	0.23	92.4
MEANS, 95% CONFIDENCE LIMITS, N'S PRECEDING 1990:						
PREV 5	4780	1363	161	1524	0.32	89.2
CL=+/-	739	448	102	522	0.06	3.2
N	5	5	5	5	5	5
PREV 10	4054	1371	176	1546	0.38	88.4
CL=+/-	982	279	62	286	0.07	3.6
N	10	10	10	10	10	10
PREV 15	3673	1361	208	1568	0.43	86.5
CL=+/-	1082	284	74	315	0.08	3.7
N	15	15	15	15	15	15

Percent 1SW is calculated by year of smolt migration.

Table 36. Fishway and fence counts of Atlantic salmon in Salmon Fishing Area 14, 1971-1990. Numbers in parentheses refer to salmon returns before broodstock removal.

	Statistical Area M			Statistical Area N				
	Torrent River fishway			Western Arm Brook fence				
				Downstream		Upstream		
Year	1SW	MSW	Total	Smolt	Kelt	1SW	MSW	Total
1971	54	4	58	5735	185	427	-	427
1972	64	3	67	11905	211	205(309)	9	214
1973	96	12	108	8484	95	351(555)	30	381
1974	38	3	41	11854	302	299(399)	4	303
1975	191	25	216	9600	203	393(631)	1	394
1976	341	47	388	6232	201	420(520)	0	420
1977	789	33	822	9899	327	341	3	344
1978	971	21	992	13071	210	285	1	286
1979	1984	39	2023	8349	1	1578	0	1578
1980	792	63	855	15665	899	430	3	433
1981	2101	97	2198	13981	168	447	1	448
1982	2112	523	2635	12477	300	387	3	390
1983	2007	442	2449	10552	207	1141	4	1145
1984	1805	288	2093	20653	719	117	0	117
1985	1553	30	1583	13417	111	162	1	163
1986	2815	90	2906	17719	168	252	0	252
1987	2505	68	2573	17029	73	378	1	379
1988	2065	41	2106	15309	353	102	1	103
1989	1339	54	1393	11397	251	414	1	415
1990	2296	82	2378	10563	146	124	0	124
MEANS, 95 % CONFIDENCE LIMITS, N'S PRECEDING 1990.								
PREV 5	2055	57	2112	14974	191	262	0.8	262
CL=+/-	206	8	212	683	37	44	0.2	44
N	5	5	5	5	5	5	5	5
PREV 10	1909	170	2079	14820	325	383	1.5	385
CL=+/-	128	40	141	689	61	66	0.3	67
N	10	10	10	10	10	10	10	10

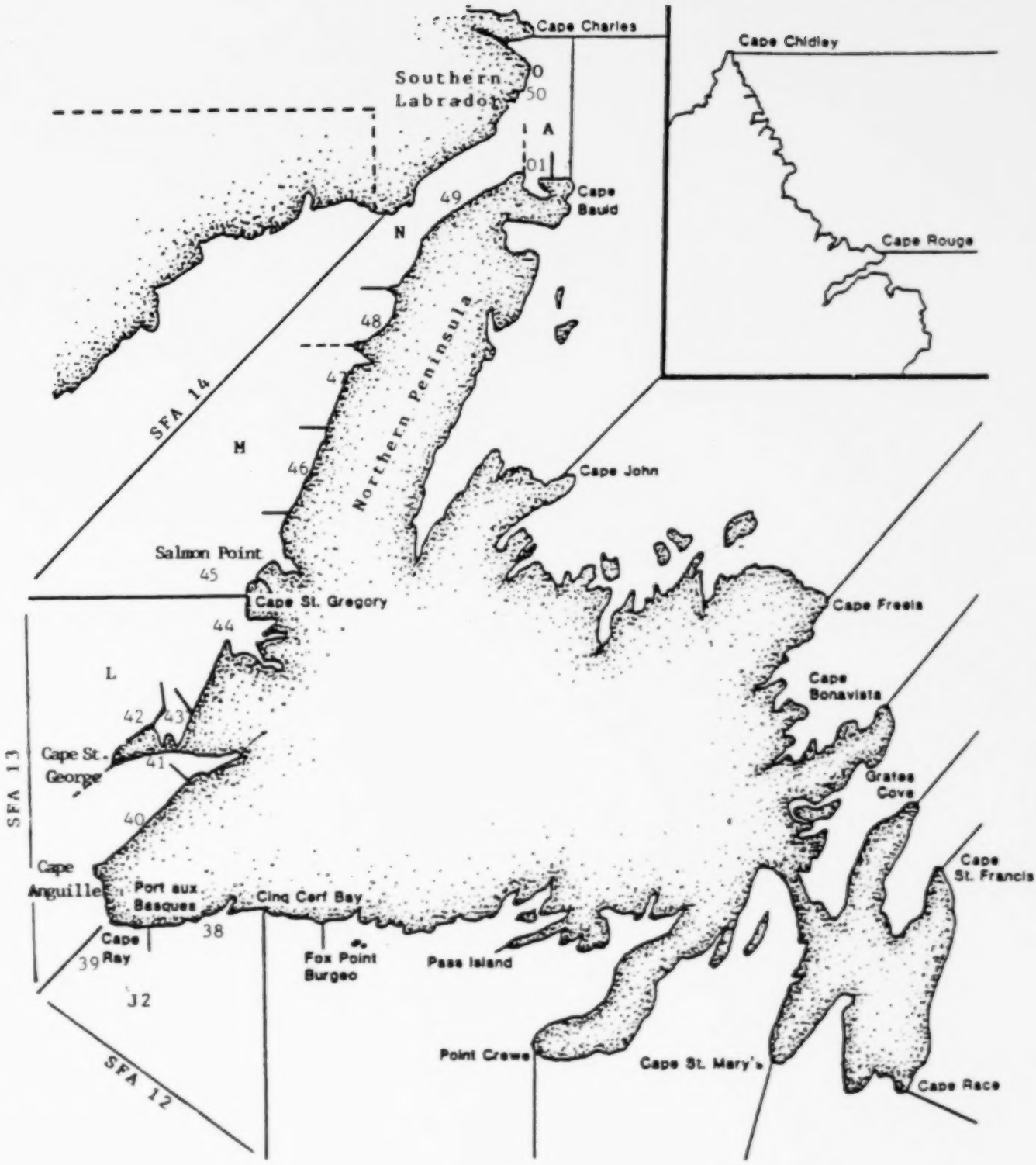

Fig. 1 Boundaries of Salmon Fishing Areas 12, 13, and 14, Statistical Areas, and Statistical Sections, Gulf Region, Newfoundland and Labrador.

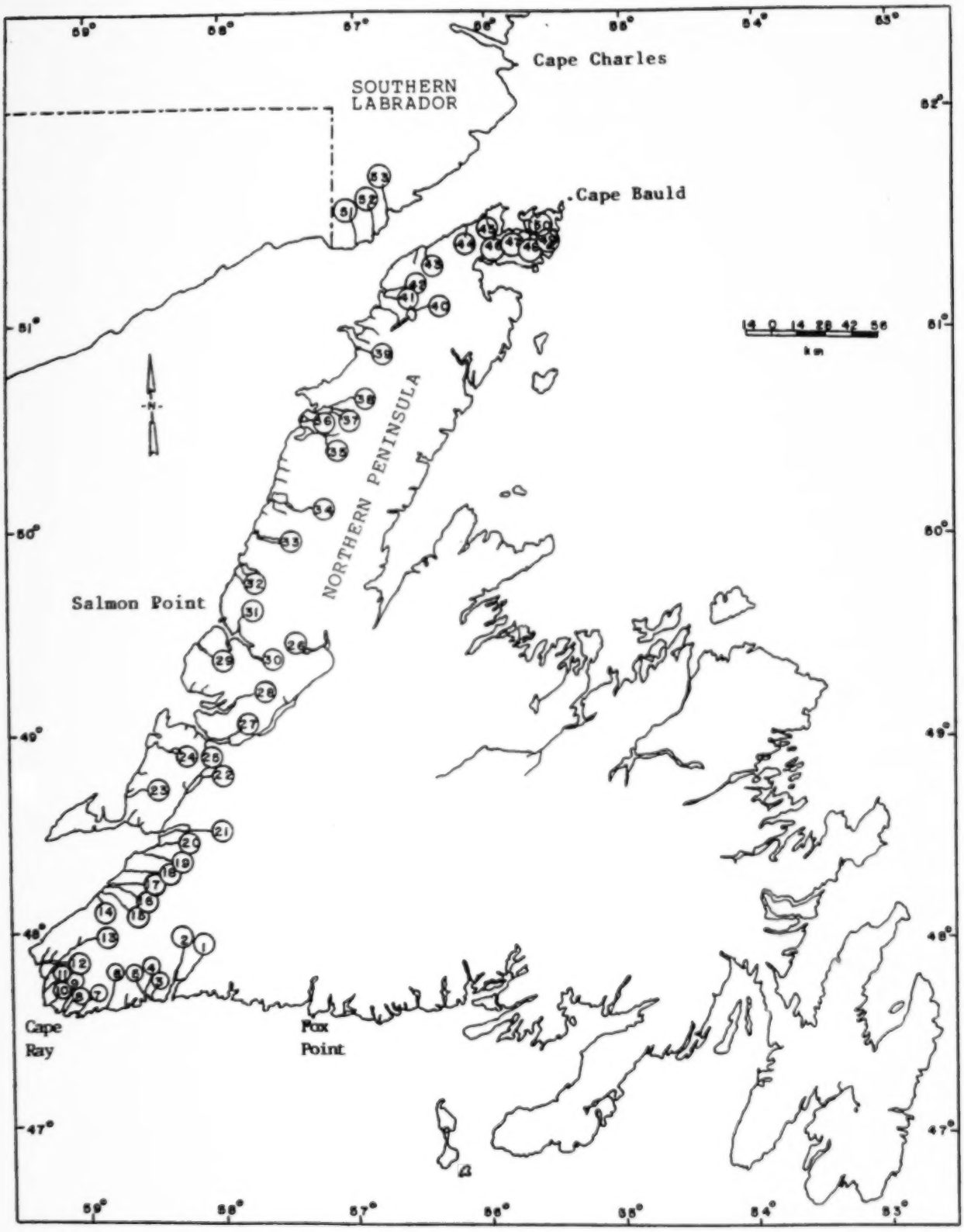

Fig. 2 Location of salmon rivers in Western Newfoundland and Labrador. Refer to Table 2 for map index.

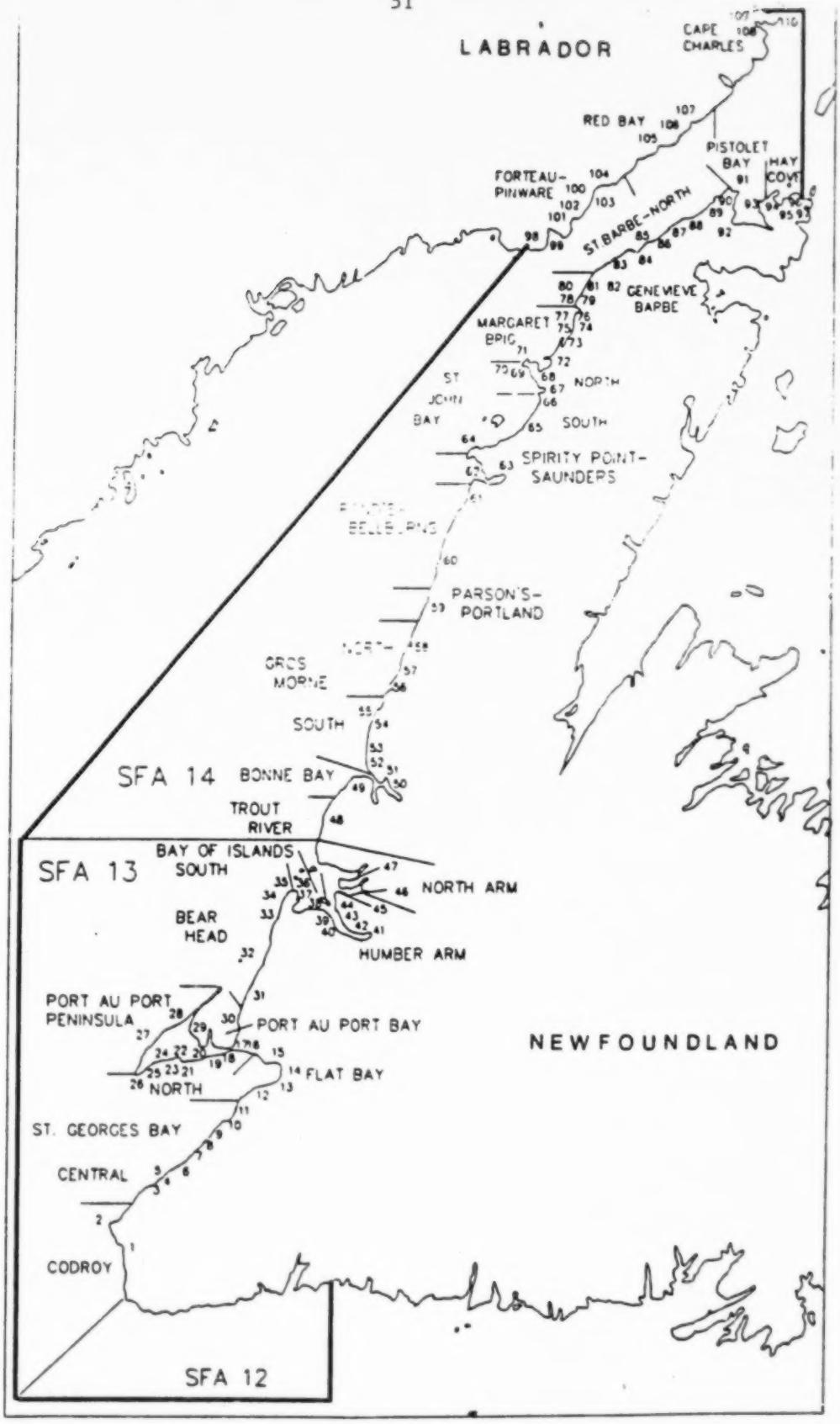

Figure 3. Location of communities within Coastal Areas in West Newfoundland and South Labrador. For community numbers see Table 2.

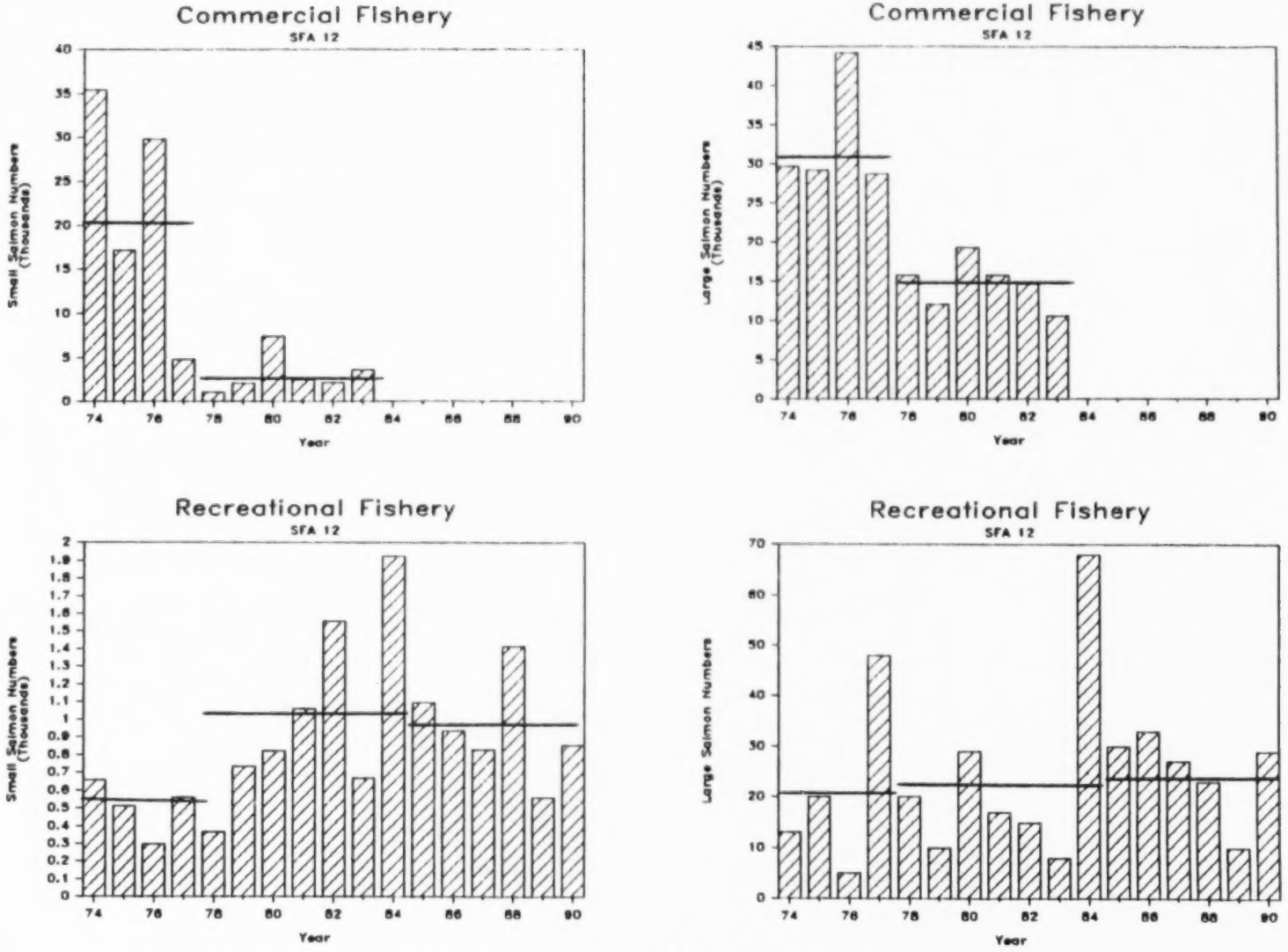

Fig. 4. Atlantic salmon commercial and recreational harvests for SFA 12, 1990. Mean harvests for years with similar management plans are shown by horizontal bars.

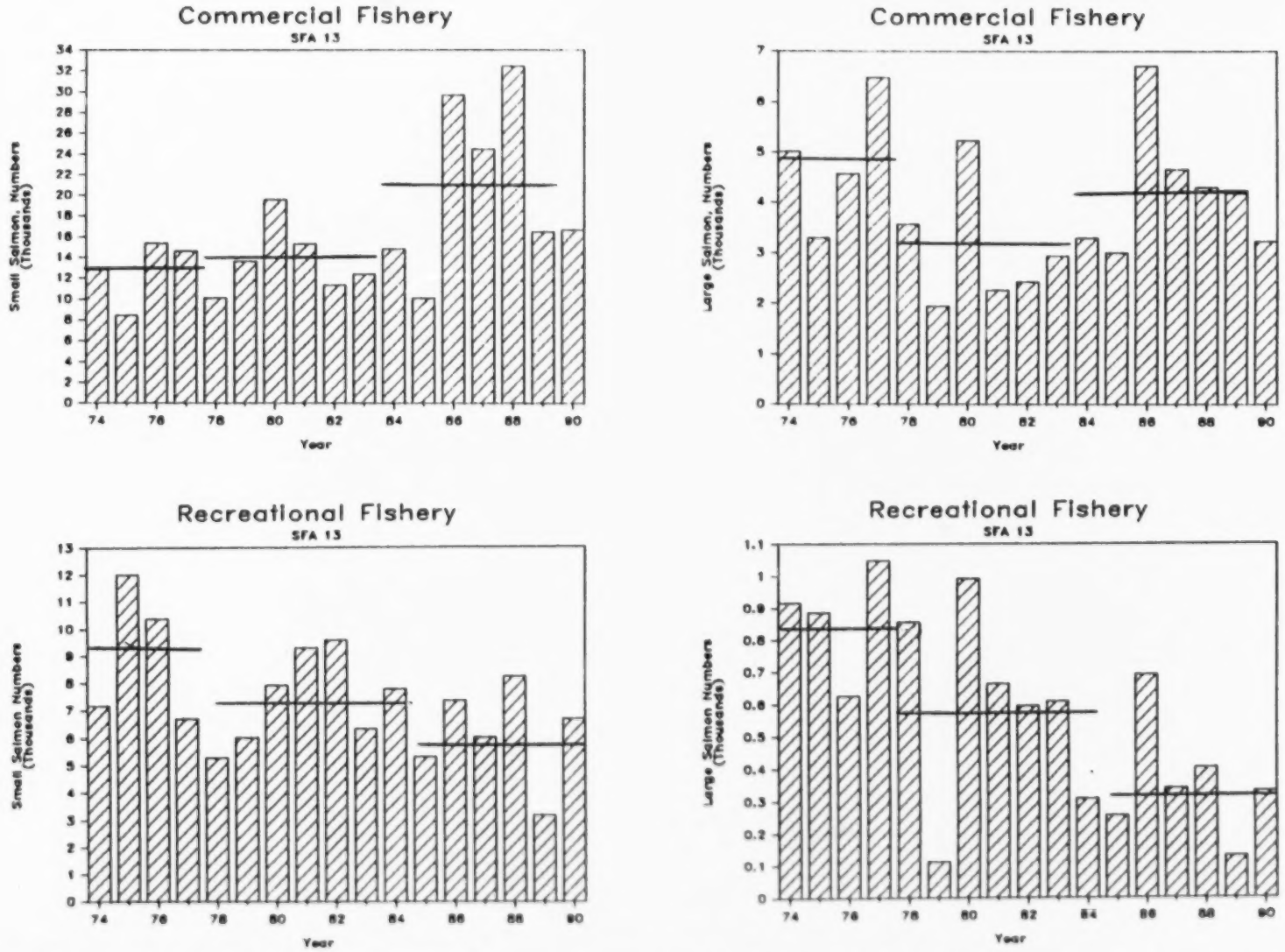

Fig. 5. Atlantic salmon commercial and recreational harvests for SFA 13, 1990. Mean harvests for years with similar management plans are shown by horizontal bars.

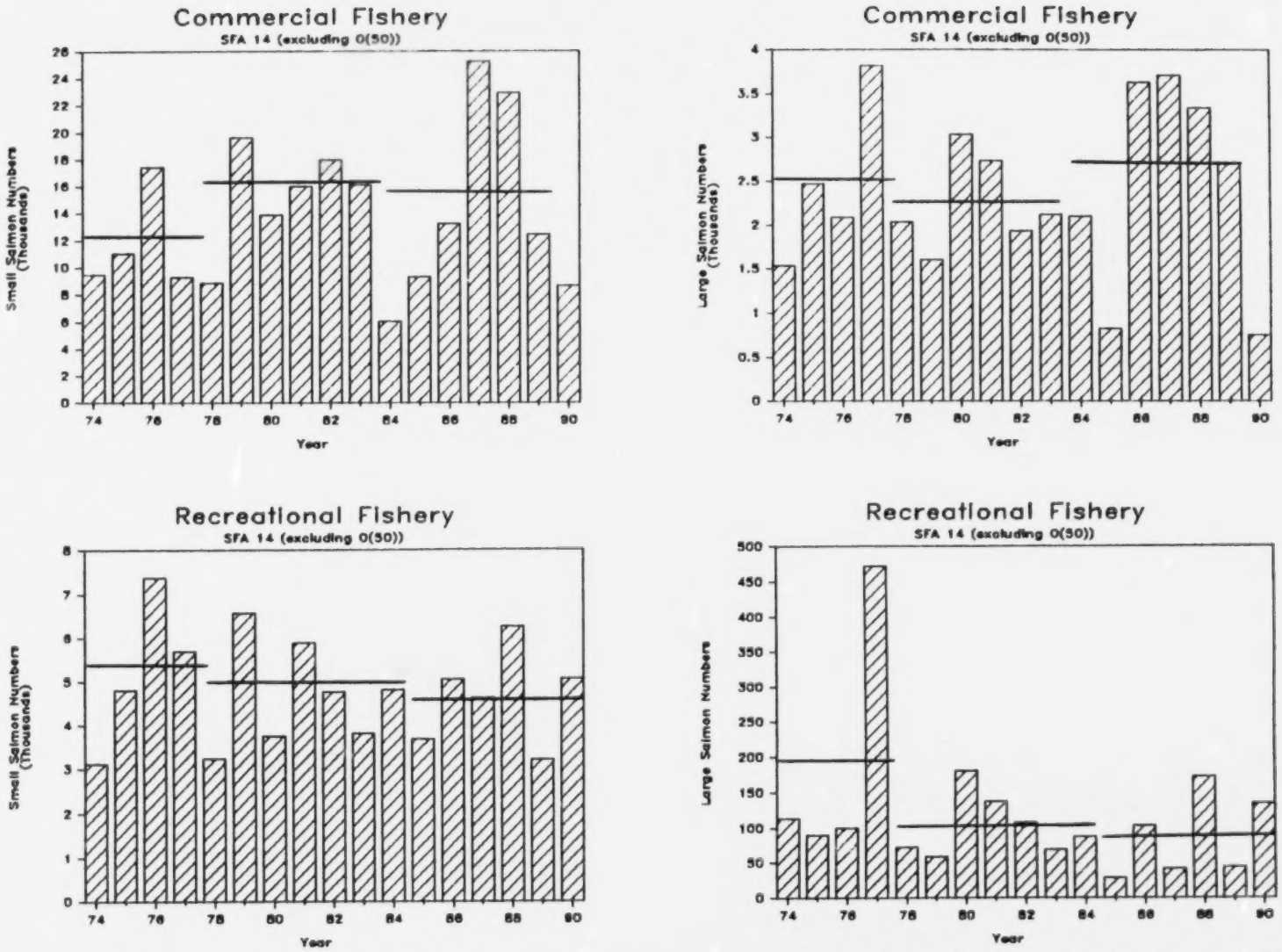

Fig. 6. Atlantic salmon commercial and recreational harvests for the Northern Peninsula, SFA 14. 1990. Mean harvests for years with similar management plans are shown by horizontal bars.

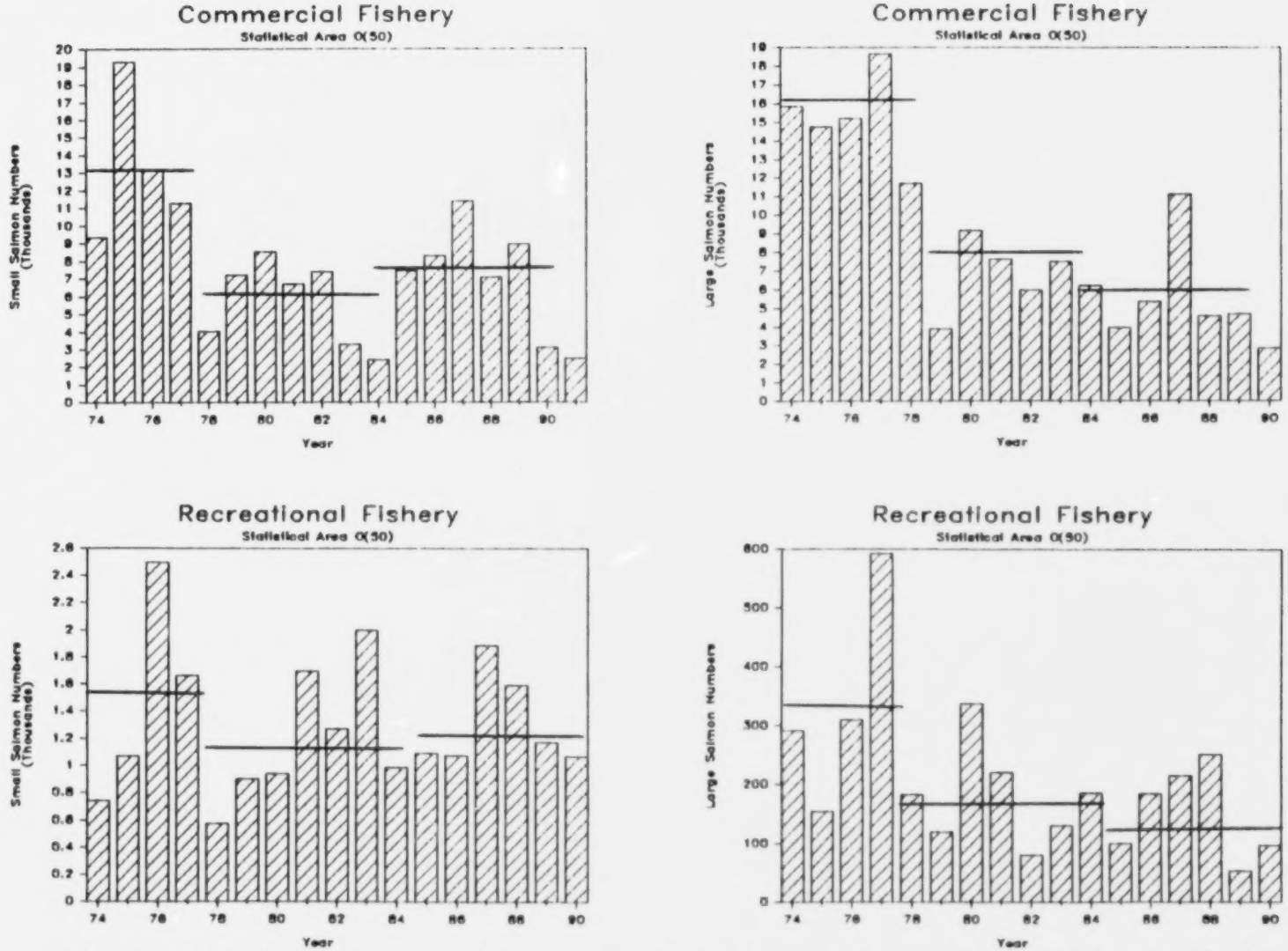

Fig. 7. Atlantic salmon commercial and recreational harvests for Southern Labrador, sectin 50, 1990. Means for years with similar management plans are shown by horizontal bars.

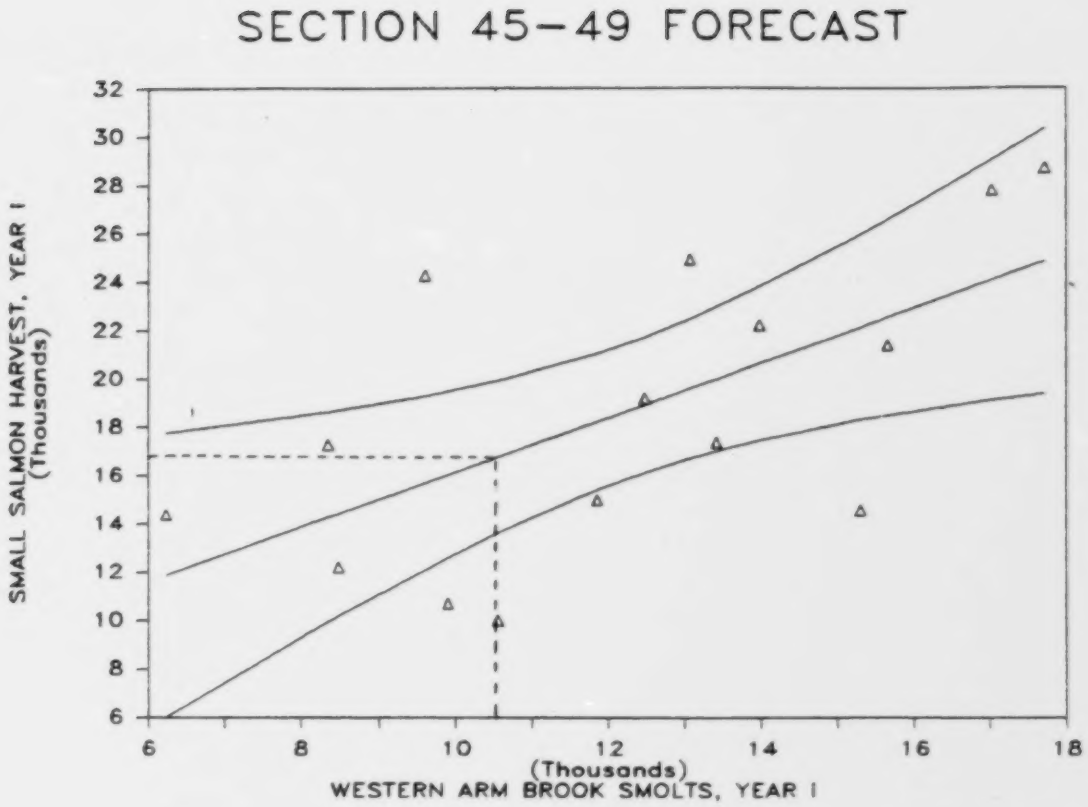

Fig. 8. Forecast of 1991 total small commercial and recreational harvests in Statistical Sections 45-49. Formula, R^2 , and P value given in text. Central line, regression line; outer lines, 95 % confidence limits for regression. Dashed lines shown 1990 Western Arm Brook smolt count and predicted 1991 total harvest of small salmon.